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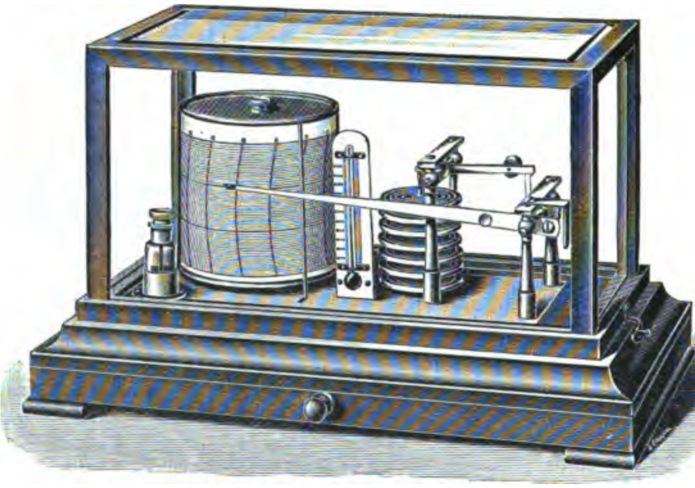

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MINUTES OF MEETING OF COUNCIL OF THE SCOTTISH METEOROLOGICAL SOCIETY, held on 13th March 1905.

THE Council authorised the insertion of the following Papers in the forthcoming Number of the Society's *Journal*:—

1. On the Treatment of Climatological Observations.
2. The Rainfall of the Ben Nevis Observatories.
3. Notes on the Weather on the Vatna Jökull during August and September 1904.
4. Memorandum by the Directors of the Ben Nevis Observatories, November 1904.
5. Report from the Council to the General Meeting, 24th March 1904, with Abstracts.
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1.

ON THE TREATMENT OF CLIMATOLOGICAL OBSERVATIONS.

By W. N. SHAW, Sc.D., F.R.S., Secretary of the Meteorological Council.

[Read at the Meeting of the Society, 6th December 1904.]

IT has been the practice for many years to deal with the meteorology of the British Isles in two ways, which have remained more or less distinct and dissociated. On the one hand, we have a series of daily observations at 8 A.M., 2 P.M., and 6 P.M., at some twenty-five stations, reported by telegraph to London, and incorporated with similar reports from Continental stations in the *Daily Weather Report*. Upon these are based the maps representing the distribution of pressure, temperature, etc., which are used for the purpose of forecasting. On the other hand, there are the observations made with exemplary care and skill by some hundred volunteer observers at the normal climatological stations. They are even more full and detailed than the observations of the telegraphic reporting stations, but they differ in this respect—they are made at 9 A.M. and 9 P.M., local time, and are therefore not quite comparable with the other series in any specific meteorological inquiry, except by an expert who has the time and skill to make the necessary adjustments required by the difference of the hours of observation.

When this adjustment is made, the two sets of stations supplement each other in a very important manner, for the telegraphic reporting stations are nearly all on the coast, whereas the normal climatological stations, though more evenly distributed, show a preponderance of inland observations.

To a certain extent the information, as regards rainfall, temperature, and sunshine from the two sets of stations, is combined in the *Weekly Weather Report*, and its monthly and annual summaries; but this provides only statistical results for consecutive weeks, months, or years, as the case may be. In other respects, the two sets of observations are kept distinct, and treated independently. The official publication of the daily observations of the one set takes place day by day, in a form which provides for their correlation. The publication of the other set does not take place until long after the particulars of the weather have been forgotten by the ordinary person. Many of the stations are represented only by summaries for the calendar month, and the individual observations for the same days are never correlated, or only to the extent necessary to form a provisional estimate of the accuracy of the instrumental readings.

This want of association between two closely related sides of meteorological work is a misfortune for both. On the one hand, for the purpose of the daily report and forecasts, the British Isles are divided into eleven districts, and a forecast is drawn up for each district. The forecast describes the direction and force of the wind to be anticipated, with the weather conditions incidental thereto, in the several districts, but in our country the weather conditions are partly geographical, and only partly, in the more general sense, meteorological. The extent to which geographical considerations affect the weather is a vital consideration when a description of a day's weather, limited to ten words of non-technical language, comes to be applied to the details of one-eleventh part of the British Isles.

On the other hand, the climatological information for a single station is quite unmanageable as long as it remains in its constituent figures. It requires to be summarised before it can be usefully applied. Before it is summarised there is great advantage in referring the daily observations to the general conditions prevailing over the district in which the station is situated. Without such means of easy reference, casual errors of considerable importance are likely to remain undetected, and some of the observations which depend upon personal impression are liable to be misunderstood by the reader, and to raise more questions than they solve.

It has been the almost universal practice to make summaries of climatological observations in the form of monthly means and extremes, and as affording a means of describing the general conditions, and as a basis for further investigation, there can be no doubt of the wisdom of this practice. The monthly maps, compiled by Dr. Buchan and reproduced in *Bartholomew's Meteorological Atlas*, or the *Temperature Tables of the British Isles*, published recently by the Meteorological Council, afford examples of the compendious information that can be conveyed by this system. But in relation to the actual weather of the British Isles, it suffers from a disadvantage which is obvious to all meteorologists—our weather is not organised in monthly periods, as it is in some countries; with all deference to the exponents of lunar and planetary influences, we do not, in this sense, take our weather from the moon. We have no rainy season, nor any specially dry season. We may have snow on Midsummer Day, or the weather of the Riviera on Christmas Day. Meteorologically we are in fact sometimes a part of the Eurasian Continent, the greatest land area of the globe, sometimes a part of the Atlantic Ocean, the earth's greatest natural physical laboratory. The effects of the geographical position of any station upon its weather is not of the same order under these different conditions. A system of classification, which deals with consecutive months of weather as though they were homogeneous divisions, leaves something still to be desired for certain meteorological problems.

The index of our meteorological relationship for the time being is not merely the time of year, but also the barometric distribution,—the continental and the oceanic distributions of pressure are essentially different, and if we wish to classify our data upon a system which takes account of our exceptional meteorological conditions, we may reasonably use the barometric distribution as set out in the daily weather maps as a means of doing so. From the barometric distribution we can form some idea as to whether our meteorological conditions are, for the time being, continental or oceanic, sub-tropical or sub-polar.

In the course of the past eighteen months, Mr. F. Gaster, who was for many years in charge of the forecast branch of the Meteorological Office, has been engaged on my behalf in making a first attempt to bring the two sets of observations at British stations, the daily telegraphic data and the normal climatological data, into relation, by using the barometric distribution as a guide to their classification, and I now lay the first results of this endeavour before the Scottish Meteorological Society. The object in view is twofold or, indeed, threefold—first, to combine the climatological data in such a way as to exhibit effectively the modifying influence of geographical position upon the general weather conditions of the locality; secondly, to work out in clear outline, and give numerical expression to, the specific character of weather associated with distributions of pressure which may be regarded as typical; and thirdly, to secure the co-operation of the observers at the normal climatological stations, in filling in the outline and extending the work by putting together the data for their stations as they are obtained, upon some plan organised by mutual agreement.

The plan I have adopted in the preliminary inquiry, with the approval of the Meteorological Council, has been to assign each of the days of the months selected for the investigation to one or other of six types of isobaric distribution, to group together for comparison the climatological data for the several stations in a specific district (both telegraphic and climatological) for the days assigned to each type, and to express the result by taking the daily average for the days of the particular type, whether the number proved to be large or small.

For the selection of the types, the general trend of the isobars across the district was chosen as the distinguishing characteristic. Following Buys Ballot's law, the direction of the isobars gives, with certain limitations, the direction of the wind. Six types were selected, and the days classified according to the type to which the isobaric distribution during the twenty-four hours from 8 A.M. to 8 A.M. most nearly corresponded.

The types selected were as follows:—

1. SE type: a pressure distribution favourable for SE winds, or, according to the amount of incurvature, for winds from the East during the twenty-four hours.
2. SW type: for winds from SW, or from some point nearer to South.
3. NW type: for winds from the NW, or from that to West.
4. NE type: for winds from the NE, or from that to North.
5. Variable Cyclonic: with the sequence of winds incidental to the passage of a cyclonic depression.
6. Variable Anticyclonic: with the uncertain winds of the interior of an anticyclonic region.

A specimen of each of the six types is represented in the weather charts reproduced in figures 1–6, as shown on the next page.

It need hardly be said that the use of six types only does not give an exhaustive classification. I will return to this aspect of the subject later. At present it is sufficient to say that the limitation of types to six is for the purpose of simplifying the consideration of the matter in the first attempt. Similarly the classification of the winds according to the four quadrants is obviously only a first step.

In this latter case difficulty arises because the winds from the four cardinal points have to be referred to one or other of the quadrants, and for this purpose the number of observations of wind entered as West, for example, at any one station, has simply been divided equally between the two quadrants SW and NW. The classification of the isobaric trend has been not quite so arbitrary, for each day has been separately considered on its merits, and assigned to the type which seemed most appropriate under the circumstances. When, therefore, the observed winds come to be compared with what may be called the ideal winds, deduced from the trend of isobars, the coarseness of the grouping of wind observations must be remembered. It must indeed be understood at the outset that if the method here described for dealing with observations commends itself to meteorologists, some understanding must be arrived at as to the extent to which it is desirable to carry classification. One of the most promising lines of study to which the results of the inquiry may be directed, is to follow out the suggestions for more effective classification that experience may indicate as desirable.

TYPICAL WEATHER CHARTS.

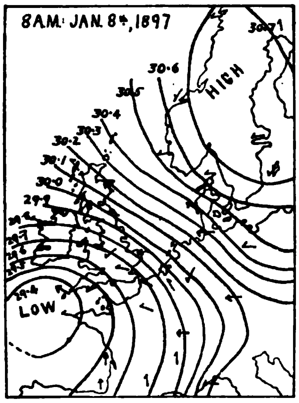


Fig. 1. SE Type.

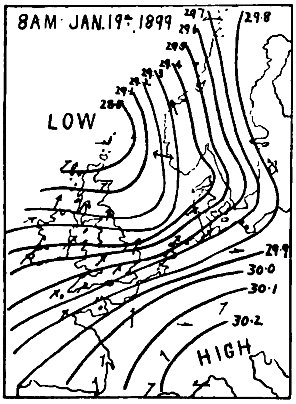


Fig. 2. SW Type.

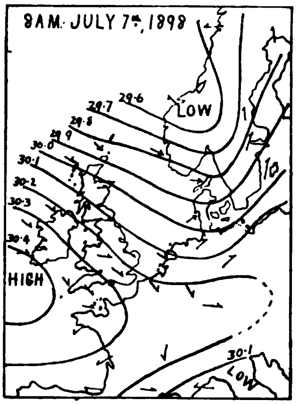


Fig. 3. NW Type.

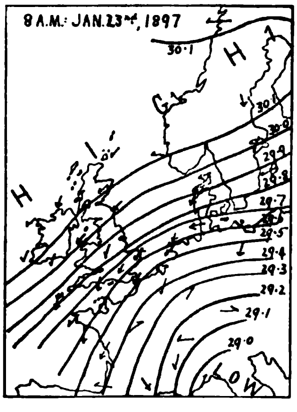


Fig. 4. NE Type.

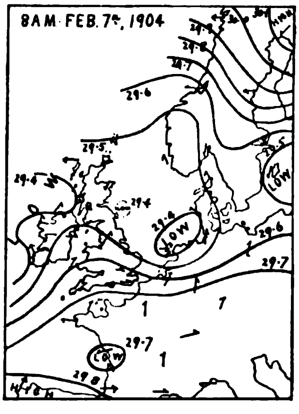


Fig. 5. Variable Cyclonic Type.

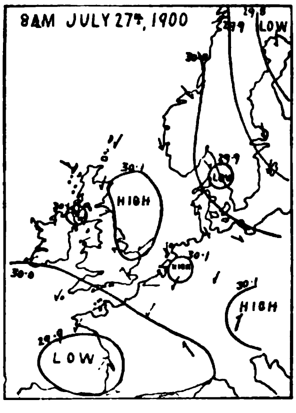


Fig. 6. Variable Anticyclonic Type.

The method of investigation has been applied to the climatological data of three of the forecast districts, "No. 7 England NW and N Wales," "No. 4 Midland Counties," and "No. 1 Scotland E." The technical meaning of these divisions will be clear from the map (Fig. 7) facing page 8, showing the districts of the British Isles and the stations which have furnished the data. The latter are shown by black dots on the map, and the stations available for the purpose of a similar inquiry for the current year (1904) in other districts are indicated by circles. Ten stations were dealt with in district 7, "England NW," the Isle of Man being included in the district for this occasion; eleven were selected for No. 4, "Midland Counties"; and eleven for No. 1, "Scotland E," Ladylaw being for this occasion included in that district, although it is just on the southern side of the conventional division which separates No. 1 from No. 2. So far, only the months of January and July have been considered, and for Scotland E only January is complete. In order to obtain enough days of each type to give what might be regarded as an average result, the corresponding months of three successive years have been taken together, and thus the data for ninety-three January or July days have been distributed between the six types.

The following elements have been included:—

1. RAINFALL.—Expressed as the average of the amounts recorded at the station on the days assigned to each of the several types.

2. RAIN DAYS.—The proportion of days of each type which were "Rain days" at the several stations, *i.e.* were days for which at least ·01 in. of rain was registered. For convenience this number is tabulated as the number of rain days experienced per ten days assigned to the type.

3. CLOUDINESS.—The average percentage of covered sky at 9 A.M. and 9 P.M., or at 8 A.M. and 6 P.M. respectively, for the days assigned to each type.

4. MAXIMUM TEMPERATURE.—The average of the readings of the maximum thermometer for the days of the type.

5. MINIMUM TEMPERATURE.—The average of the readings of the minimum thermometer for the days of the type.

6. SUNSHINE.—Expressed as the average of the number of hours of sunshine recorded on the days assigned to the type.

7. THE DIRECTION OF THE WIND.—For this the wind observations for the days of each type have been grouped into four quadrants; and, with the number of calms, percentages of the winds for each quadrant and of calms have been made out.

   It is evident from the principle upon which the classification has been conducted, that the SE type ought to be associated with SE winds at all the stations in the district, subject to two conditions:—(1) that the classification has been successful; (2) that the wind observations at the station are unaffected by local configuration or conditions. Hence the particulars about the wind afford an indication as to how far the wind observations at a station compare with the general meteorological conditions. It should, however, be repeated that the plan of using only quadrantal classification introduces a little uncertainty here. The days of due westerly wind will be divided between the NW and SW quadrants, and the former may appear as divergences from the ideal winds of the SW type without very much justification. Some difficulty of this kind is unavoidable with any system of classification, but the effect is likely to be considerable when four points only are used.

8. WIND FORCE.—The average of the Beaufort scale returns noted at the stations on the days assigned to each type has been tabulated for each station. It will be noticed that the data under this head show some unaccountable anomalies.

By this system of classification we reduce the climatological data for each station to a series of twelve numbers for each type, seventy-two in all, which can be compared one with another. The numbers for each station are thus considerable, for a group of ten stations they reach in the aggregate seven hundred and twenty; if we add the numbers of days of the several types, we get seven hundred and twenty-six numbers, representing the data for a district which comprises ten stations.

They can be utilised for several purposes—

(1) To give the comparative frequency of the days of each type of pressure distribution.

(2) To compare the results at an individual station for the various types.

(3) To compare the general results for the districts for the several types.

(4) To compare the stations in the same district for each type or each pair of types.

In order to make all these comparisons easy, it is desirable to exhibit the whole of the results on one sheet of paper in such a way as to give prominence to features that deserve attention, whether they be the general features of a group of stations or the specific features of an individual station.

I attempted to do this in the first instance by computing the various elements as percentages of the average for the district, in the manner indicated in the following scheme:—

Explanation.

Each diagram is divided into six portions, numbered I. to VI., according to certain types of weather-distribution.

The types are identified by the trend of the isobars as follows:—

Type I. when the trend of the isobars was favourable for SE wind.
,, II. ,, ,, ,, SW ,,
,, III. ,, ,, ,, NW ,,
,, IV. ,, ,, ,, NE ,,
,, V. ,, ,, variable cyclonic breezes.
,, VI. ,, ,, ,, anticyclonic breezes.

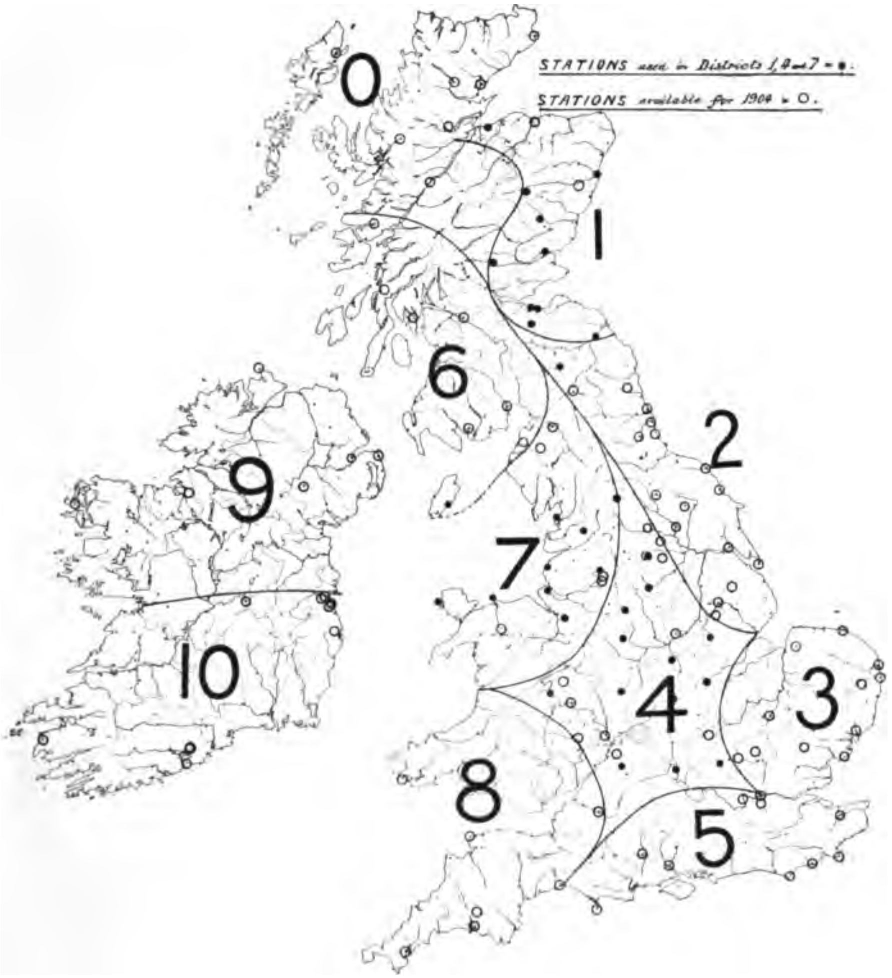

STATIONS used in Districts 1, 4 and 7 = ●.
STATIONS available for 1904 = ○.
0
1
2
3
4
5
6
7
8
9
10

Fig. 7.

MAP SHOWING DISTRICTS AND STATIONS.

CLIMATOLOGICAL DATA.

DISTRICT 7 (ENGLAND, NORTH-WEST). JULY 1896, 1897, 1898.

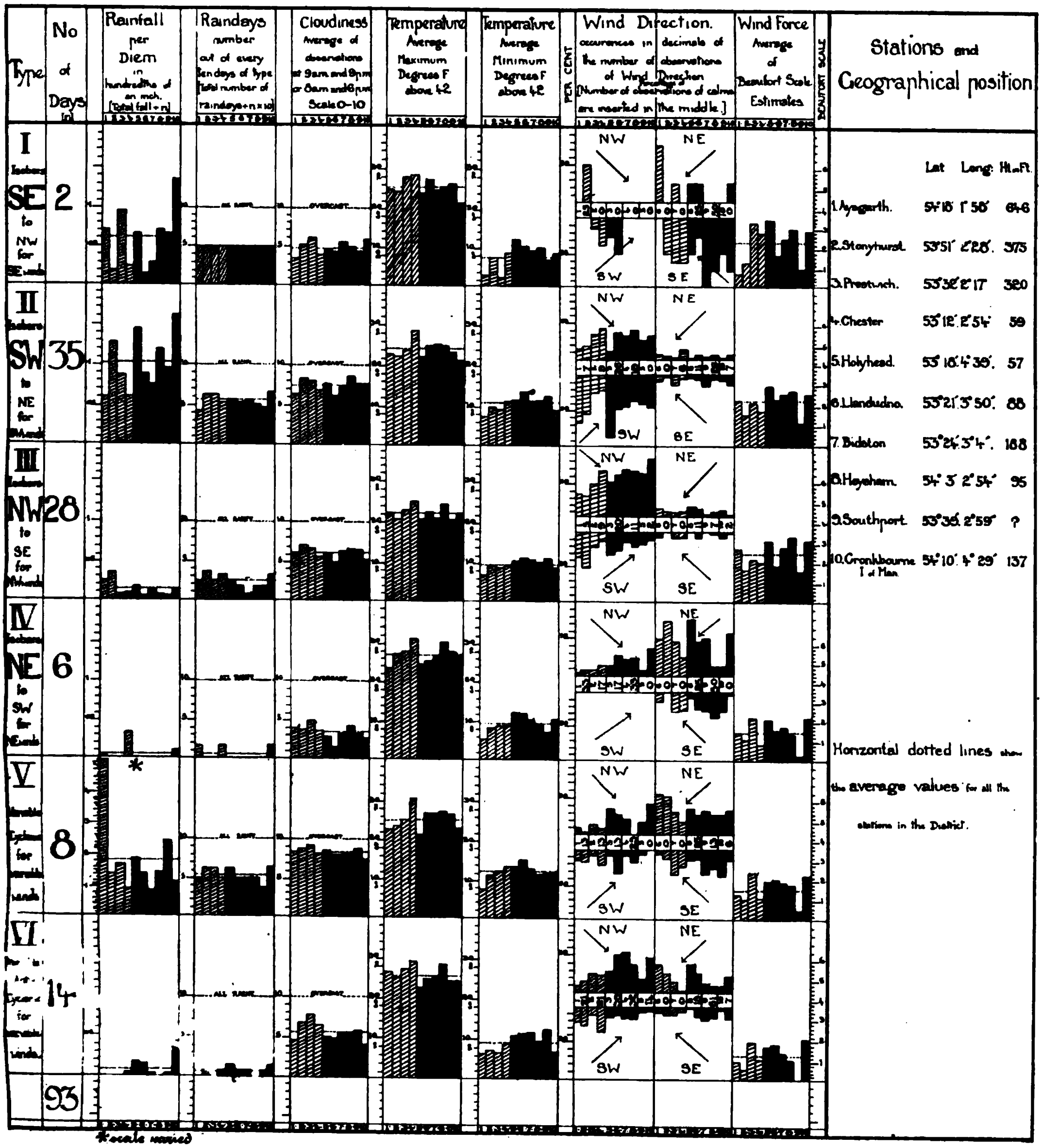


FIG. 9.

CLIMATOLOGICAL DATA.

DISTRICT 4 (MIDLAND COUNTIES). JANUARY 1897, 1898, 1899.

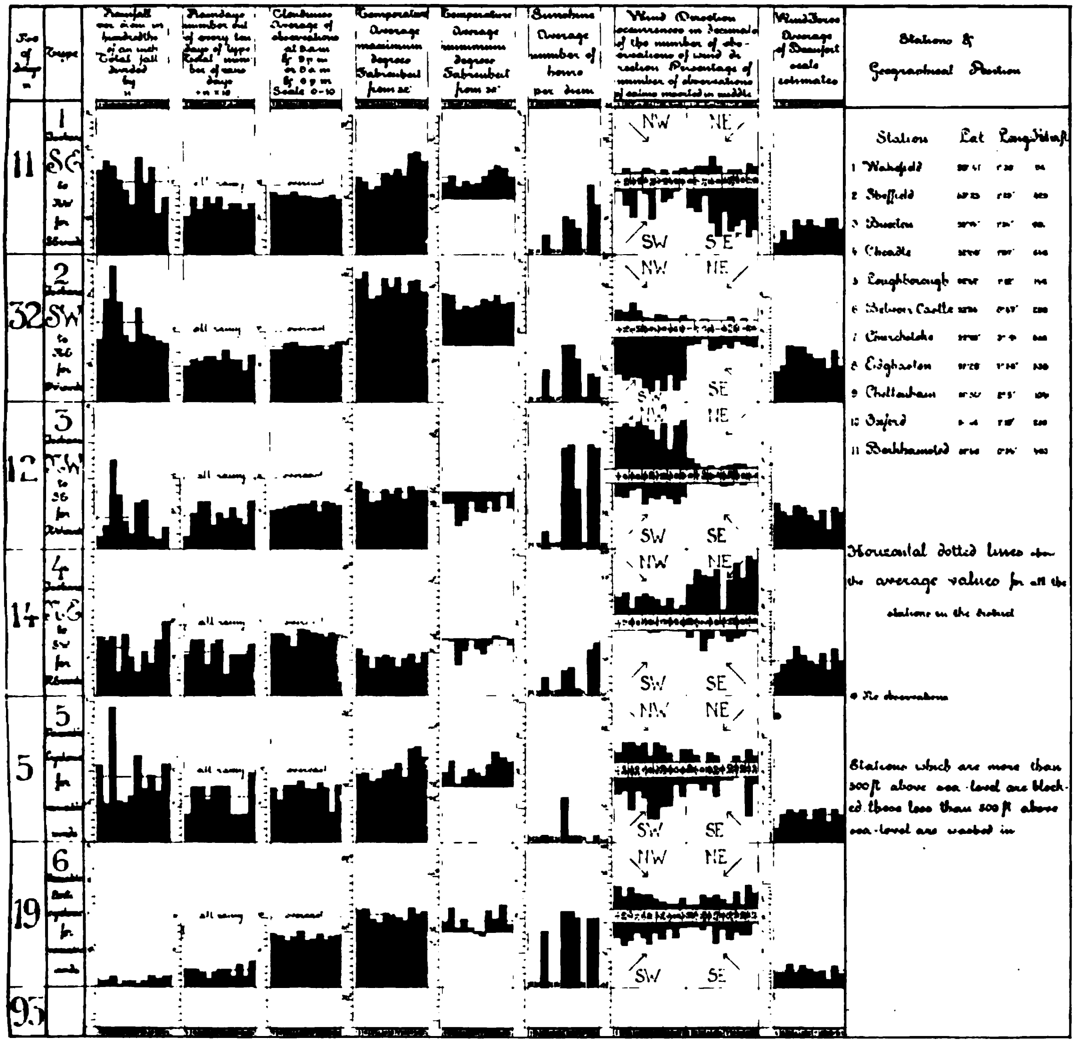


FIG. 10.

CLIMATOLOGICAL DATA.

DISTRICT 4 (MIDLAND COUNTIES). JULY 1897, 1898, 1899.

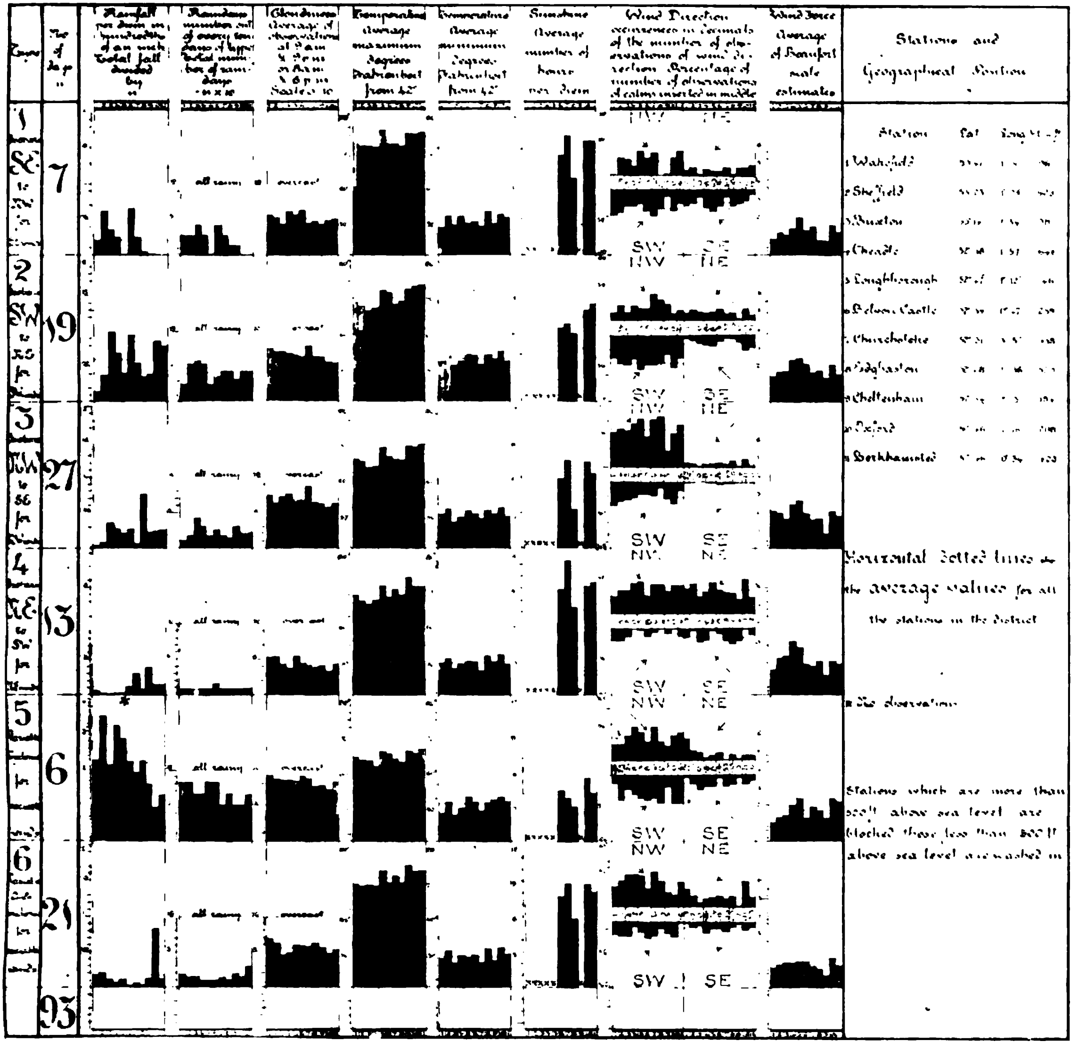
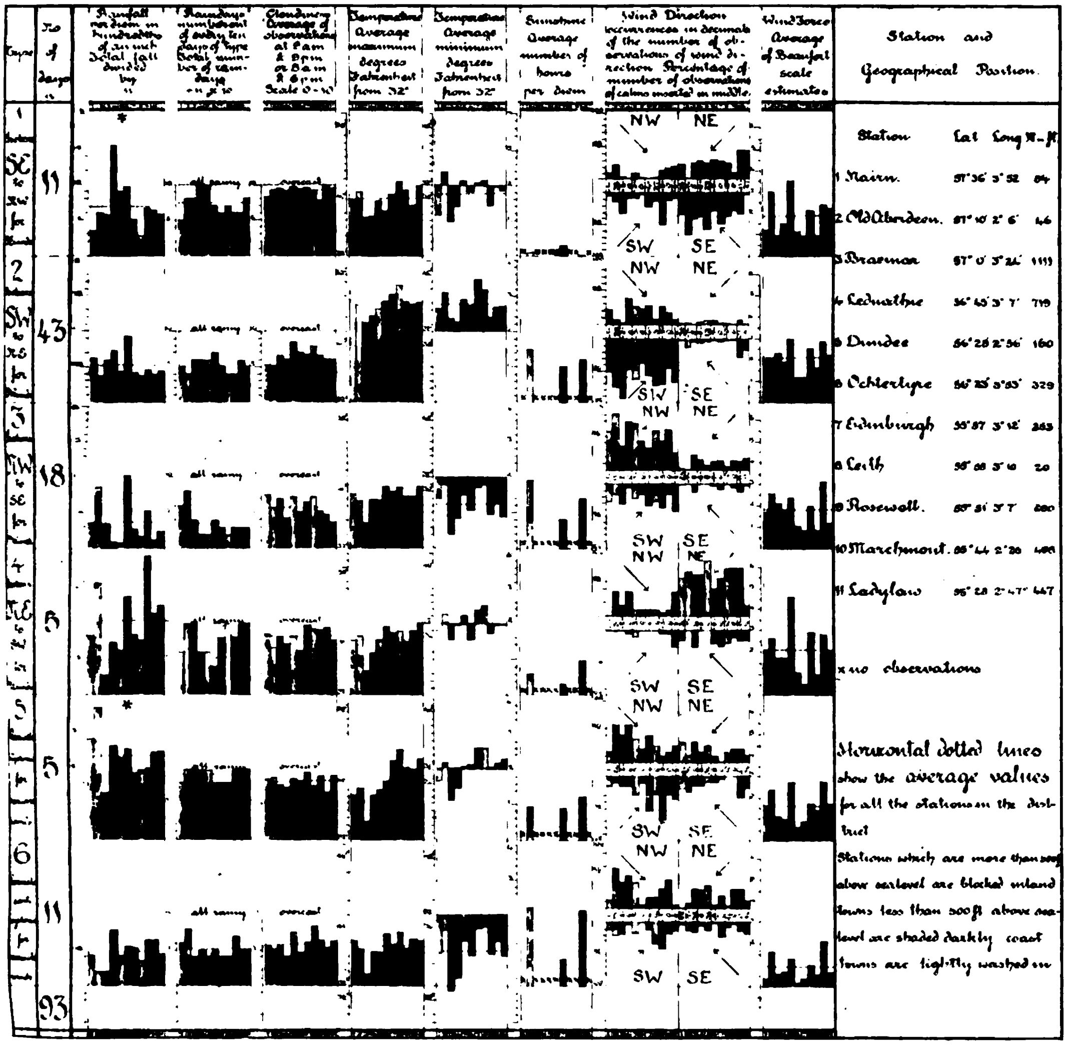


FIG. 11.

CLIMATOLOGICAL DATA.

DISTRICT 1 (SCOTLAND, EAST). JANUARY 1897, 1898, 1899.



Station and Geographical Position

Station	Lat	Long	H.-ft.
1 Nairn	57° 36′	3° 52′	84
2 Old Aberdeen	57° 10′	2° 6′	46
3 Braemar	57° 0′	3° 24′	1111
4 Lednathie	56° 45′	3° 7′	719
5 Dundee	56° 28′	2° 56′	160
6 Ochtertyre	56° 25′	3° 53′	329
7 Edinburgh	55° 57′	3° 12′	263
8 Leith	55° 58′	3° 10′	20
9 Rosewell	55° 51′	3° 7′	600
10 Marchmont	55° 44′	2° 20′	498
11 Ladylaw	55° 28′	2° 47′	647

× no observations

Horizontal dotted lines show the average values for all the stations in the district.

Stations which are more than 500 ft above sea level are blacked inland towns less than 500 ft above sea-level are shaded darkly coast towns are lightly washed in

* Scale varied.

FIG. 12.

The figures in the several compartments indicate, according to the fount (or character of type) in which they are printed, the elements to which they refer; thus:—

(*See January diagram for Aysgarth.*)

41	(in the corner of the square) indicates the rainfall recorded on the days classed under Type III. and estimated as percentage of the mean fall for the district during those days,
100	the rain days estimated as percentage of the mean number for the district.
93	indicates the local cloudiness at the hours of observation as percentage of the mean cloudiness for the district.
61 NW	the percentage of NW wind observations. Observations of calms are omitted in computing the percentage.
(12 NE, 24 SW)	the percentage of observations in which the wind varied from the general direction indicated by the isobaric distribution and was recorded locally under the directions NE and SW respectively.
2·7	the mean force (Beaufort Scale) recorded.

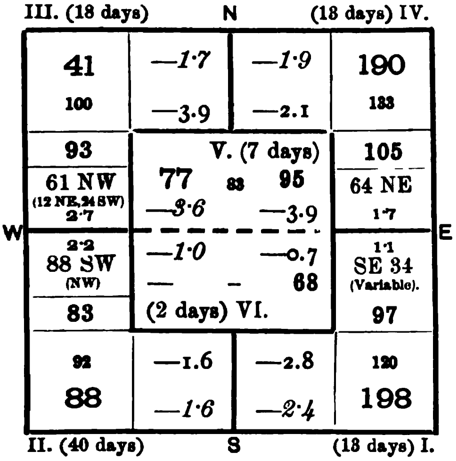
The other figures mean—

—*1·7*	the difference between the mean maximum for the station and the corresponding value for the district. It is marked with a — sign to show that the value for the station is below the mean for the district.
—3.9	the difference between the mean minimum for the station and the corresponding value for the district.

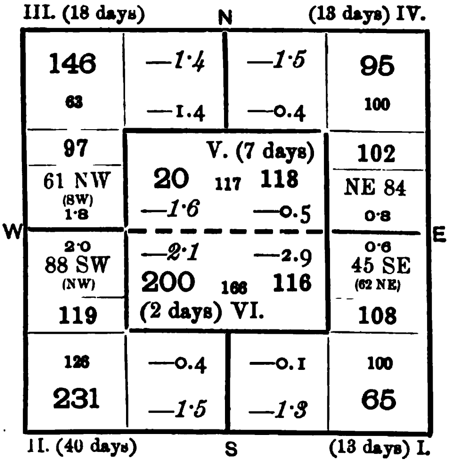
LAND STATIONS—JANUARY.

January 1896–98.

AYSGARTH.



STONYHURST.



The results are also shown on the diagrams Figs. 8-12. For District 7 (England NW), the specification of each type and the number of days assigned to it is given in the left-hand margin. Six hundred out of the available six hundred and sixty numbers representing the data of the ten stations in the district, (sunshine has not been dealt with in this diagram), are each represented by a column of suitable length, the elements for the whole set of stations being grouped in compartments. The remaining sixty numbers, representing the percentages of calms for each type and each station, are written against figures identifying the stations in the horizontal spaces crossing the columns for wind direction. The same figures at the head and foot of each column are used to identify the stations to which the individual columns refer, with the assistance of a reference list at the side of the diagram.

In order to distinguish between different classes of stations, the columns used to represent the data are differentiated; for example, in the first two diagrams, those for England NW (Figs. 8 and 9), the columns for coast stations are in solid black, while those for inland stations are merely hatched. In the second pair of diagrams, Midland Counties (Figs. 10 and 11), there are no coast stations, and the full black columns represent stations at a height of over 500 feet above mean sea-level, while the lower stations are represented by columns of a lighter shade. In the fifth diagram, Scotland E (Fig. 12), the black column has been retained for stations of over 500 feet, while lower inland stations have a dark shading, coast stations a lighter shading. The averages for all the stations in the district are indicated by horizontal dotted lines.

In each diagram the scale for each element is uniform throughout the series of types, with the exception of the rainfall for Type 1 in Scotland E (Fig. 12), and for Type 5 in Figs. 9, 11, and 12. In these cases, which are shown by an asterisk in the diagram, the rainfall scale has had to be reduced in order to keep the diagram within reasonable dimensions. Temperatures are referred to 32° F. for the January diagrams, and to 42° F. for the July diagrams.

We may now proceed to consider some of the details shown in the diagrams and of the general inferences that may be drawn from them. First as to the prevalence of the several types of distribution, we have the following table:—

NUMBER OF DAYS OF EACH TYPE.

TYPE.	ENGLAND, NW. 1896–1898.		MIDLAND COUNTIES. 1897–1899.		SCOTLAND, E. 1897–1899.	
	January.	July.	January.	July.	January.	July.
I. SE . . .	13	2	11	7	11	...
II. SW . . .	40	35	32	19	43	...
III. NW . . .	18	28	12	27	18	...
IV. NE . . .	13	6	14	13	5	...
V. Variable cyclonic .	7	8	5	6	5	...
VI. Variable anticyclonic	2	14	19	21	11	...

The January data for Scotland E and the Midland Counties are for the same period, and the relative preponderance of the SW and NW types in the more northern district represents the difference of general climatic conditions for the two districts; on the other hand, the data for the adjacent districts, England NW and Midland Counties, are for periods which have two years in common, and the differences represent the differences of climatic conditions on the average of the three years.

It is, of course, assumed here that the errors of judgment in assigning days to particular types are not sufficiently important to affect the result. This point could only be adequately decided by a re-examination of the details of the original classification, but some light is thrown upon it by a consideration of the tabulated wind directions. If the winds show themselves true to type, as on the whole they do, the classification is to a certain extent confirmed.

Some other interesting points of detail may be briefly referred to.

In the January diagram (Fig. 8), the comparison of rainfall at Aysgarth and Stonyhurst shows how the rainfall is affected by the watershed. The former gets the heavier rainfall with easterly winds, the latter with westerly. The temperature columns show the advantages of coast stations as regards winter temperatures, except in the special case of Heysham for the two days of variable anticyclonic weather in the three winters.

The cloudiness column shows Llandudno in an exceptional position.

The details of the wind-force column, particularly the lightness of the wind at Southport, clearly demonstrate the necessity for further inquiry into the methods of estimation.

For July (Fig. 9) we may notice the remarkable inequalities of rainfall with the variable cyclonic type—the type under which thunderstorms would probably be classified, (the scale of the diagram for that compartment has had to be modified to accommodate the figures), the dryness of the north-westerly and north-easterly types, the temperature relations of coast and inland stations, and again the irregularities of wind force.

In the January diagram for the Midland Counties (Fig. 10) the results are surprisingly homogeneous, the relations of winds to type are clearly marked, and the wind forces arrange themselves in what may be called a normal manner. The conspicuous rainfall at Buxton for winds from westerly quarters is clearly brought out; and other points of interest are the dryness of the anticyclonic type, the low temperatures and abundant sunshine of the north-westerly type, with a corresponding freedom from cloud, and the high temperatures of the south-westerly type, and in general the temperature relations of the different types.

In the July diagram for the same district (Fig. 11), notice the concentration of rainfall (0·2 in.), raindays (7), and cloudiness (8), under the variable cyclonic type, the dryness of the NE and variable anticyclonic types, the high average maximum temperature (above 72°) under the SE type, and the low maximum (68°) under the variable cyclonic conditions, the relative irregularity of the winds, in consequence, doubtless, of the solarisation (the irregularities are most marked under the sunny types SE and NE).

The diagram for Scotland E is in many respects the most interesting, not only in Edinburgh, but to meteorologists generally. Among the many points of interest, a few may be mentioned:—The apparent certainty of rainfall (eight raindays out of ten at the most favoured stations), and the abundance of rainfall under the variable cyclonic type—the scale in this case also has required modification; the irregularities of rainfall under the NE type; the occurrence of substantial rainfall with winds from all quarters; the large excess of rainfall at Rosewell compared with Edinburgh for the NE type; the prevalence of clouds under the SE type; the high temperatures under the SW type; the low temperatures under the NW, and variable anticyclonic types especially at the high-level stations Braemar and Lednathie; the absence of sunshine in the SE type (not to mention the absence of sunshine data for all types).

The irregularities in the wind force again call attention to the necessity for further inquiry into the estimates of that quantity.

I have given, I trust, sufficient examples to show that the diagrams exhibit a number of interesting and sometimes very striking points, which would be masked or obliterated if the averages instead of being limited to the days of the individual types were extended over whole months. One or other of the various features would then only become apparent if the month happened to correspond with the prevalence of a particular type.

Let me now revert to the subject with which the paper opened, and put before you some considerations with regard to the classification. The first point that occurs to me is that the direction of the isobars over a limited district, and the corresponding direction of the wind, is in itself hardly sufficient. It is a matter of great importance whether the station is in the middle of the general current of air, or on the side where the isobars are concave towards the low pressure region, or on the side where they are concave towards the barometric maximum. Each of the four typical directions should be divided into at least three classes.

This point appears to me to be of considerable meteorological importance, and I should like to illustrate it. A chart taken from those prepared in the Meteorological Office to illustrate the stormy winter of 1898-99, and shown at the Meeting, exhibits what I believe is a not uncommon phenomenon, a great stream of air across the Atlantic with high pressures on the south side, and low pressures, divided into regions of barometric minima in the north; but the regions of minimum pressure are comparatively unimportant incidents, the main stream being the dominant meteorological feature.

If this be accepted, it is clearly important to investigate the properties of the main stream with respect to temperature, rainfall, etc., as distinguished from those of the low-pressure and high-pressure margins.

Some other refinements of classification, derived from recent investigations, may be of interest to the Society, although they would carry classification to too great detail for our present purpose.

If we consider the northern or low-pressure margin of the general westerly current, and turn our attention to the centres of low pressure, we find, as is well known, that different specimens travel along with very different speeds. Those that travel rapidly may be said to interfere less with the general westerly current than the slower travellers. The calculated paths of air forming a storm which travels with the same speed as the wind (*Quarterly Journal Royal Meteorological Society*, vol. xxix. p. 241) show that the wind that feeds the storm comes mainly from the west, and that issuing from the storm goes to the east, whereas a slow travelling minimum would take its air from both north-east and south-west.

Two storms of not very dissimilar barometric shape—one, a fast travelling one of March 24–25, 1902, and the other, a slow travelling one of November

11–13, 1901—show conspicuous differences in the amounts of rainfall associated with them, and the differentiation between these cases might be an important detail of classification, although, perhaps, it might overburden the inquiry now under consideration.

I will now only mention some considerations, set out at length in a paper in the *Proceedings of the Royal Society of London*, vol. lxxiv. p. 20, 1904, which throw some light upon the general westerly or easterly drift, and point to the importance of giving them a separate place in a classification of types of weather. It appears from these considerations that a SW drift in January possibly represents the type of steady motion of the atmosphere which is appropriate to that month, the disturbances of which constitute the vicissitudes of our weather; on the other hand, that the NE drift may be the temporary invasion of the type of steady motion generally appropriate to more northern regions; and further, that the SE and NW types are comparatively transitory types, and indicative of disturbances of the normal type of steady motion for our latitudes.

But leaving these details and more remote considerations, I hope I have made it clear that the classification of the climatological data according to types to be agreed upon, whether they be the six adopted in the diagrams, or the fourteen which the separation of each of the first four into three would imply, enables the student of meteorology to get a much clearer and more definite insight into the facts of meteorology, by bringing to the numerical test a number of statements which have long been recognised in a more vague and general form. If that be so, such a classification places in the hands of the meteorological observer at any station a means of bringing a knowledge of the general meteorological conditions to bear upon the local weather prospects.

I need hardly say that as each diagram alone represents some seven or eight hundred numbers, and therefore, perhaps, twelve thousand observations, the labour of preparing one of these diagrams is very great. But it is a case in which division of labour greatly lightens the task, and I have come to Edinburgh with the hope that some of the volunteer observers of the Scottish Meteorological Society might be willing to co-operate in what I believe would be a useful as well as an interesting task, and group the data for their own stations as they go through their hands day by day according to a classification upon principles agreed upon in advance, and announced, perhaps, week by week from a central institution. If this could be done, there would only remain the gathering of the results for the districts, and their representation upon a diagram, or, indeed, merely by the numbers which the diagram represents.

It is upon that aspect of the question, as well as the more strictly meteorological questions that I have brought to your notice, that I desire the opinion of the Society.

2.

THE RAINFALL OF THE BEN NEVIS OBSERVATORIES.

By Andrew Watt, M.A.

THE HIGH-LEVEL RECORD.

The measurement of precipitation on the summit of Ben Nevis was attended with great difficulties, the nature of which has been described in early papers by Mr. Omond.* In the first place, the greater part of the precipitation consists of snow, which usually begins to accumulate in October, and, as a rule, does not thaw away until the end of May. The maximum depth is reached in the latter half of April—about six and a half feet on the average, though in some years the accumulation as measured on a post about twenty yards from the Observatory was as much as eleven to twelve feet.

With the snowfall element so prominent, the use of a self-registering gauge was found to be impracticable, the record being maintained by eye-observations alone and only gauges of the simplest pattern being employed. The pattern finally adopted during the later history of the Observatory was an open cylinder, five inches in diameter, and twelve inches in height. This was let into a heavy leaden base about fifteen yards from the Observatory, the gauges being exchanged every hour when necessary, and any snow in them melted and measured within the building.

Again, topographical considerations, which are of importance at any station, must in the case of a mountain of the mass and configuration of Ben Nevis lead us to regard the record of a gauge upon the summit as of a very local character. Southwards we have a steep and fairly equal slope, but northwards a sheer cliff of some 2000 feet. As a consequence, winds with a northerly component are deflected violently upwards and strike the summit at all sorts of angles some distance from the edge of the cliff. It was the experience of the observers that northerly winds were very difficult to identify, and a wind might properly be described as from the north when the personal sensation of the observer were of a wind from quite another direction. For these reasons it is extremely probable that during northerly winds less than the proper precipitation was recorded, that is less than would have been recorded had the northern contours of the mountain resembled the southern.

But quite apart from the influence of topographical peculiarities, the high wind velocities naturally obtaining in these latitudes at an altitude of 4400 feet make the registration of rain, and still more that of snow, somewhat uncertain. Indeed, experiments at different points on the hill-top showed that two gauges not far apart might materially differ in their records. In short, to quote Mr. Omond, the rainfall records for the summit station "can only be taken as referring to one particular spot, near the centre of the eastern half of the plateau" of which the top of the mountain consists.

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* The Winds and Rainfall of Ben Nevis in 1885, *Journal S.M.S.*, 3rd series, vol. vii. p. 275.
Do. do. 1886, *do.* do. vol. viii. p. 18.

It is interesting here to compare studies of the rainfall of Mount Washington, New Hampshire, U.S.A., made by the United States Weather Bureau in 1882.* Experiments were made with gauges in various positions on the mountain top, and it was found that precipitation was found to vary "materially within distances of only 100 or 200 feet." Snowfall was excluded from these experimental observations, and it was further found that "with a few exceptions . . . the windward gauges record the least rain, the central gauges somewhat more, and the leeward gauges the most of all." Further, the records of a three-inch gauge and an eight-inch gauge in similar positions varied greatly, contrary to the experience of observers at low-level stations. The discrepancy appeared to vary directly as the square of the velocity of the wind, and thirty per cent. had to be added to the readings of the three-inch gauge to make them agree with those of the eight-inch pattern.

The High-level Observatory on Ben Nevis was opened in November 1883, but the rainfall measurements until nearly the end of the following year were regarded as of an experimental nature. In this paper we are concerned with the nineteen-year period, 1885–1903, the record of which is an entirely homogeneous one referring to a single spot on the mountain top, and established by a system of hourly eye observations, in which there are only a few interruptions, where stress of weather made it impossible for the observer to reach the gauge or when snow-drift vitiated the record.

THE LOW-LEVEL RECORD.

As regards the low-level record also, we have for the main purposes of our paper treated the observations for the period 1885–1903 as a homogeneous series. This is, however, not quite the case. The Low-level Observatory, less than one hundred yards from the shores of Loch Linnhe, was not in operation until the end of July 1890, the record before that date being from a Symons five-inch gauge at the Schoolhouse close by. A Beckley self-recording gauge, with a receiver of one hundred square inches in area, was adopted as the standard gauge for the Observatory, and the Schoolhouse record was continued until the end of 1891, so that a set of seventeen months' simultaneous observations were available as a basis for comparing the two exposures. The differences were found to be but slight, and we have felt justified, for the main purposes of this paper, in combining the two series of observations without any adjustment. A paper by Mr. Omond, comparing the observations at the Schoolhouse with those at the Observatory may, however, be consulted.† We have employed the Schoolhouse record, based on daily observations, until the end of 1890, and thereafter the hourly record from the Beckley gauge at the Observatory.

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* *v.* Signal Service Note, No. xvi.: "The effect of Wind Currents on Mount Washington," and "Monthly Weather Review," April 1902.

† Comparison of Observations at the Low-level Observatory and at the Public School, Fort William: *Journal S.M.S.*, 3rd series, vol. x. p. 49.

The heights and geographical co-ordinates of the gauges at the top and foot of the mountain were—

	Height.	Lat.	Long.
Ben Nevis . . .	4405 feet.	56° 48′ N.	5° 0′ W.
Fort William . . .	31 „	56° 49′ N.	5° 7′ W.

THE ANNUAL AMOUNTS.

In Tables I. and II. we have for Ben Nevis and Fort William respectively the rainfalls for each month of the nineteen-year period 1885–1903; the monthly means for that period, and also for the thirteen years, 1891–1903, covered by the record of the Beckley gauge at Fort William; the annual amounts and the departures of these from the nineteen years' mean expressed (i.) as actual quantities, and (ii.) as percentages of the mean.

TABLE I.

Rainfall on Ben Nevis, 1885–1903.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.	Difference from Average.	Difference per cent.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1885 .	7·33	16·94	12·81	4·86	8·37	6·84	7·53	7·68	20·87	19·08	9·82	24·33	146·41	−14·37	−9
1886 .	12·76	2·85	5·91	4·59	6·25	7·60	10·99	10·16	13·03	8·16	14·57	10·98	107·85	−52·93	−33
1887 .	17·80	13·30	5·90	7·53	3·97	7·51	14·54	8·71	10·99	12·19	8·99	17·58	129·01	−31·77	−20
1888 .	16·03	8·79	7·45	6·89	12·87	3·76	7·82	12·37	6·90	17·21	20·60	11·77	132·46	−28·32	−18
1889 .	17·69	14·86	12·11	3·89	4·34	1·94	4·09	18·32	7·28	6·62	11·48	18·04	120·66	−40·12	−25
1890 .	29·42	4·57	27·31	8·09	6·01	14·66	13·22	14·33	20·71	37·30	18·96	3·75	198·33	+37·55	+23
1891 .	14·20	15·09	14·78	2·50	7·00	7·51	10·53	19·16	43·54	14·34	11·88	17·48	178·01	+17·23	+11
1892 .	22·32	12·30	5·42	5·92	14·07	9·56	10·83	15·47	21·90	9·53	13·86	9·73	150·91	−9·87	−6
1893 .	12·23	10·33	12·58	5·99	5·48	5·88	12·32	14·79	19·25	22·84	18·43	25·67	165·79	+5·01	+3
1894 .	15·96	33·55	14·58	3·50	6·66	8·33	11·34	17·70	1·32	4·67	17·40	14·93	149·94	−10·84	−7
1895 .	6·88	3·54	14·32	11·74	3·69	3·92	10·79	12·76	8·95	12·06	13·98	15·40	118·03	−42·75	−27
1896 .	16·20	11·15	19·55	10·04	2·91	9·74	6·87	11·01	10·78	13·07	9·77	12·47	133·56	−27·22	−17
1897 .	3·42	16·22	17·24	6·55	10·91	8·46	14·13	11·88	17·03	12·08	17·78	20·07	155·77	−5·01	−3
1898 .	27·08	30·09	19·07	10·76	8·74	10·37	11·74	18·60	24·90	13·86	21·27	43·65	240·13	+79·35	+49
1899 .	15·30	10·56	25·21	17·01	6·88	7·61	15·22	5·58	20·78	18·11	32·48	12·55	187·29	+26·51	+17
1900 .	35·32	7·75	3·84	20·22	14·76	6·97	13·12	11·85	16·96	20·93	10·28	48·34	210·34	+49·56	+31
1901 .	20·12	5·91	14·95	12·87	4·74	13·19	4·54	12·93	10·65	16·01	15·09	25·43	156·43	−4·35	−3
1902 .	24·75	3·36	18·73	9·87	15·81	2·91	12·22	9·37	12·45	16·31	7·86	23·42	157·06	−3·72	−2
1903 .	33·45	36·24	37·95	8·36	6·62	6·43	13·26	20·97	10·72	18·66	17·27	6·81	216·74	+55·96	+35
Means—															
13 years	19·02	15·08	16·79	9·64	8·33	7·76	11·30	14·00	16·86	14·81	15·95	21·23	170·77	...	...
19 years	18·33	13·55	15·25	8·48	7·90	7·54	10·79	13·35	15·74	15·42	15·36	19·07	160·78	...	...

Thus the annual rainfall at the top of the mountain for the nineteen years ending 1903 was 160·78 inches, and that at the foot, 78·58 inches. These values almost certainly differ from the "true" means for the two stations, since it is now clearly established that anything less than a thirty-year period is insufficient for the determination of a satisfactory average for any given station.* Had a thirty or thirty-five year record been available for Ben Nevis and Fort William, we should probably have got somewhat higher averages than these afforded by our nineteen-year period, since this includes part of the eighties, a dry decade, whereas the longer period would have carried us back to the seventies, a wet decade.

If we consider for both stations the departures of the annual amounts from the annual averages, we find that the sign of the departure is the same in every case, except in 1885, 1891, 1894, and 1899. The variations in the first three of these years were very slight, and the divergence was notable only in 1899, when there was a slight defect at Fort William, but a considerable excess on Ben Nevis. Considering further the incidence of very dry and of very wet years, we may say that there is a general agreement between the two records, except in 1886, which for Ben Nevis was the driest year on record, with only two-thirds of the normal rainfall, whilst at Fort William the shortage was less than 10 per cent. It is perhaps remarkable that, with such heavy rainfalls, the variations from year to year at the top and at the foot of the mountain have been, on the whole, so much in sympathy.

TABLE II.

RAINFALL AT FORT WILLIAM, 1885-1903.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.	Difference from Average.	Difference per cent.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1885 .	5·89	12·10	4·77	3·55	4·13	3·24	3·78	3·12	12·70	7·72	6·73	14·58	82·26	+3·68	+4
1886 .	7·72	4·59	5·26	5·67	3·86	3·05	5·62	4·96	8·75	5·72	8·79	7·46	71·45	−7·13	−9
1887 .	12·73	11·40	3·50	3·49	1·86	3·33	7·90	3·08	4·55	6·22	5·09	8·13	71·28	−7·30	−9
1888 .	9·35	3·06	5·33	4·03	6·39	2·52	4·35	7·19	2·71	7·12	11·08	7·09	70·22	−8·36	−11
1889 .	10·31	8·77	6·25	3·12	2·73	0·84	1·35	7·58	3·88	4·72	4·91	10·90	65·36	−13·22	−17
1890 .	19·67	1·67	11·13	3·10	2·82	7·46	7·69	6·22	7·85	13·85	10·31	1·29	93·06	+14·48	+18
1891 .	7·39	7·19	4·96	0·80	2·55	3·04	3·84	8·20	12·72	9·91	6·08	11·69	78·37	−0·21	−0
1892 .	8·54	2·93	1·84	1·96	5·97	3·87	5·47	8·14	14·43	5·35	9·39	5·39	73·28	−5·30	−7
1893 .	5·27	8·38	4·43	3·08	2·51	1·80	4·57	6·44	9·08	12·51	8·51	16·14	82·72	+4·14	+5
1894 .	11·79	13·62	9·36	1·37	3·78	3·13	5·70	7·72	0·24	2·06	11·62	8·78	79·17	+0·59	+1
1895 .	2·70	1·08	5·55	5·26	2·07	3·04	4·89	9·37	5·52	4·78	8·47	7·65	60·38	−18·20	−23
1896 .	9·50	8·26	10·64	3·64	1·27	5·05	3·96	6·29	7·01	5·55	4·68	8·63	74·48	−4·10	−5
1897 .	1·67	8·06	8·47	4·24	4·79	4·12	6·92	5·24	9·75	6·28	6·50	11·79	77·83	−0·75	−1
1898 .	14·22	11·31	7·41	6·77	2·91	4·27	2·84	7·30	10·60	6·88	7·99	24·01	106·51	+27·93	+36
1899 .	7·38	4·91	8·65	5·37	2·56	2·05	4·45	1·77	9·11	9·11	13·27	5·96	74·59	−3·99	−5
1900 .	10·40	3·37	0·71	6·27	6·24	4·32	4·27	6·56	8·91	8·95	4·72	21·68	86·40	+7·82	+10
1901 .	7·86	2·09	4·22	5·62	1·44	5·97	3·13	5·62	6·64	9·55	4·64	10·69	67·47	−11·11	−14
1902 .	10·08	1·07	7·58	3·33	4·63	1·62	3·65	4·95	5·49	9·05	3·73	9·14	64·32	−14·26	−18
1903 .	16·11	17·04	17·25	3·81	4·49	2·97	6·60	11·95	7·15	13·05	7·86	5·61	113·89	+35·31	+45
MEANS—															
13 years	8·68	6·87	7·01	3·97	3·48	3·48	4·64	6·89	8·20	7·92	7·50	11·82	79·96	...	...
19 years	9·40	6·89	6·70	3·92	3·53	3·46	4·78	6·40	7·74	7·81	7·60	10·85	78·58	...	...

It is interesting to compare with the Ben Nevis record the even heavier rainfall for the Stye, in the English Lake district, 1077 feet above sea-level.

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* H. R. Mill: "On Mean and Extreme Annual Rainfall over the British Isles."—*Proceedings Institution of Civil Engineers*, vol. clv., 1903-1904, part i.

The monthly gauge, "B," of the British Rainfall Organisation at that place has yielded the following annual amounts for 1872, and from 1877 to 1903:—

TABLE III.—ANNUAL RAINFALL AT THE STYE, GAUGE B.

	Inches.		Inches.		Inches.		Inches.
1872	243·98	1881	172·56	1891	166·40	1901	162·18
...	...	1882	202·50	1892	172·20	1902	124·78
...	...	1883	190·28	1893	166·50	1903	223·40
...	...	1884	173·74	1894	166·22		
...	...	1885	197·92	1895	127·65		
1877	235·52	1886	169·38	1896	156·74		
1878	149·04	1887	130·90	1897	197·25		
1879	148·55	1888	175·40	1898	207·20		
1880	161·00	1889	152·85	1899	164·53		
		1890	202·05	1900	172·00	[Gauge A in 1902]	

Mean of 19 years, 1885–1903, = 170·29 inches.

The average annual rainfall at the Stye for our nineteen-year period exceeded the Ben Nevis average by 9½ inches. In the five years 1891, 1898, 1899, 1900, 1902, Ben Nevis had a heavier rainfall than the Stye, and in the last four of these years the excess was very large, the greatest difference being in the wet year, 1898, when about 33 inches more were recorded at the Scottish station. In the remaining fourteen years the Stye had a heavier rainfall than Ben Nevis, registering in 1886 as much as 61½ inches more. In a few years the differences between the two stations has differed little from the normal difference, but, on the whole, the relative variations have been great.

It is somewhat remarkable, however, to find as we do that the Stye rainfall has shown a much less variability and range than that of Ben Nevis. Considering only extreme years, and including also Fort William, we have the following comparisons:—

	Wettest Year.	Driest Year.	Ratio of Wettest Year to Driest.
	in.	in.	
Stye . . .	223·40	124·78	1·79
Ben Nevis . .	240·13	107·85	2·21
Fort William . .	113·89	60·38	1·89

Thus the Stye has shown the least relative variability of the three stations, and Ben Nevis much the greatest.

THE MONTHLY AMOUNTS.

The mean monthly distribution of rain shows a close agreement at the top and bottom of the mountain, there being a midwinter maximum at both stations, and at both a minimum from April to June. If we express the mean monthly falls for the nineteen-year period as given in Tables I. and II. as percentages of the mean annual amounts, we have the following:—

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.
	%	%	%	%	%	%	%	%	%	%	%	%	%
Ben Nevis .	11·4	8·4	9·5	5·3	4·9	4·6	6·7	8·3	9·8	9·6	9·6	11·9	100
Fort William	12·0	8·8	8·5	5·0	4·5	4·5	6·1	8·2	9·8	9·9	9·7	13·0	100

The agreements between the two curves is thus exceedingly close, and offers, perhaps, the most remarkable feature of the Ben Nevis record, to be dealt with presently when we come to consider the question of the vertical gradient.

But besides this parallelism of the average curves an examination of the separate monthly rainfalls shows a very close sympathy between the top and bottom of the mountain as regards the occurrence of maximum and minimum monthly amounts. Thus if from Tables I. and II. we tabulate for each station the years in which the different months have recorded the heaviest, or second heaviest, falls, we have:—

TABLE IV.

	BEN NEVIS.		FORT WILLIAM.	
	1st Max.	2nd Max.	1st Max.	2nd Max.
January . . .	1900	1903	1890	1903
February . .	1903	1894	1903	1894
March . . .	1903	1890	1903	1890
April . . .	1900	1899	1898	1900
May . . .	1902	1900	1888	1900
June . . .	1890	1901	1890	1901
July . . .	1899	1887	1887	1890
August . . .	1903	1891	1903	1895
September . .	1891	1898	1892	1891
October . . .	1890	1893	1890	1903
November . .	1899	1898	1899	1894
December . .	1900	1898	1898	1900

In six months out of the twelve Ben Nevis had the heaviest fall on record in the same year as Fort William; in three other months, April, September, and December, the heaviest fall on Ben Nevis corresponded to the second heaviest at Fort William; whilst in the three remaining months, January, May, and July, there was a secondary agreement. A similar survey of the months of least rainfall shows an even closer agreement, the minimum years of the two stations corresponding for no less than nine months out of the twelve.

Thus from the point of view of both the mean and the individual monthly values there is a close parallelism between the two records, indicating that the incidence of the rainfall on the top of the mountain is controlled by the same influences that determine the variations of the rainfall at the base.

We may also look at the monthly variations from the point of view of their frequency and intensity, utilising for this purpose the hourly observations for the thirteen-year period 1891–1903. In the three columns of the following table we have—(i.) The mean monthly and annual amounts; (ii.) the mean number of hours per month during which a fall of 0·003 in., or over, was recorded; (iii.) the quotient of the various amounts by the corresponding number of "rain hours." The third column, therefore, gives a measure of the comparative intensity from month to month.

TABLE V.

13 years—1891–1903.

	Ben Nevis.			Fort William.		
	Mean Amount.	Mean No. of Rain Hours.	Comparative Intensity.	Mean Amount.	Mean No. of Rain Hours.	Comparative Intensity.
	inches.		inch.	inches.		inch.
January . . .	19·02	333	·057	8·68	242	·036
February . . .	15·08	256	·059	6·87	195	·035
March . . .	16·79	311	·054	7·01	226	·031
April . . .	9·64	206	·047	3·97	153	·026
May	8·33	201	·041	3·48	131	·027
June	7·76	191	·041	3·48	117	·030
July	11·30	255	·044	4·64	151	·031
August . . .	14·00	256	·055	6·89	181	·038
September . .	16·86	270	·062	8·20	195	·042
October . . .	14·81	294	·050	7·92	217	·036
November . . .	15·95	290	·055	7·50	218	·034
December . . .	21·23	353	·060	11·32	278	·041
	170·77	3216	·053	79·96	2364	·034

Thus at the foot of the mountain there is a minimum intensity of rainfall in April and May, and at the top a minimum in May and June, whilst the intensity curves for both stations, as indicated in the diagram, show a fairly smooth annual period, except for a remarkable interruption in September. In that month, both for Ben Nevis and Fort William, a well-marked secondary maximum of rainfall amount is accompanied by only a trifling increase in rainfall frequency, and we have at both places a maximum of rainfall intensity for the year. An almost equally well pronounced maximum occurs again at both places in December, and possibly a longer series of observations might somewhat modify the curves. It was noticed, however, in computing the results for the thirteen-year period that the September irregularity appeared from a very few years' observations, and there is no doubt that the curves indicate a

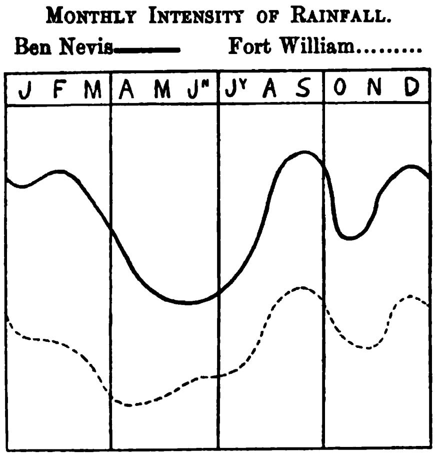

Fig. 1. (See Table V.)

definite fact, and not merely one accidental to the period covered by the available data. Thus, in at least one part of the west coast of Scotland, the heavy rainfall characteristic of September in that region is at both high and low levels due to heavier and not to appreciably more frequent falls.

HEAVY DAILY FALLS.

A most interesting point for examination in the case of two stations so correlated as Ben Nevis and Fort William is the proportion of the precipitation accounted for at either place by heavy falls. On the top of the mountain a few daily amounts of more than six inches were recorded, and a large number of more than four inches; but we can here give merely a summary of the results, referring those interested to the detailed observations in course of publication in the *Transactions of the Royal Society of Edinburgh.* We give, however, in Appendix A (p. 31), the daily rainfall for both stations for each month of 1898—the wettest year of the series on Ben Nevis and the second wettest at Fort William.

Table VI. (p. 22) shows, for both stations, the monthly and annual mean values analysed into contributions of 1 inch and over, of 0·50 inch to 0·99 inch, and of less than 0·50 inch. These amounts are shown also as percentages, and the mean number of days of rain appropriate to each sub-division is given.

On Ben Nevis 58 per cent. of the annual rainfall was made up of daily falls of 1 inch and over, and only 18 per cent. of daily falls of less than half an inch, the corresponding figures for Fort William being 29 per cent. and 38 per cent. Again, from September to March, about two-thirds of the summit rainfall, and about one-third of the low-level rainfall were made up of heavy daily amounts of 1 inch and over. For both stations the September figures throw a light on the maximum intensity of rainfall in that month just referred to. Thus on Ben Nevis the percentage of the mean September rainfall due to falls of less than half an inch was much less than in August or October, and the number of days of such falls less than in any month except February—a month shorter by two days. The Fort William figures are equally striking.

THE VERTICAL GRADIENT.

A considerable amount of material is available for the discussion of the variation of rainfall amount with height above sea-level—much of which has been summarised by Hann and Supan. The formation of rain on mountain slopes may be theoretically considered, but such discussions, though of great academic value, do not help us in any particular case, as they necessarily proceed within certain presupposed limits, whilst in actual fact the complexities are endless. To the available material the Ben Nevis observations form a valuable addition, both from the practical point of view of the water-engineer, and from the theoretical point of view of the student of meteorology.

Expressing the relation of the mean annual rainfall on Ben Nevis to that at Fort William as a ratio, we have, on the basis of our nineteen years' observations—

$$\text{Ratio} = \frac{160{\cdot}78}{78{\cdot}58} = 2{\cdot}05$$

TABLE VI.—BEN NEVIS RAINFALL, 1885–1903.

Mean Amounts in Inches.

DAILY FALLS—	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.
1 in. and over .	12·31	8·93	9·77	3·95	3·09	2 84	4·43	6·73	9·70	9·18	9·36	13·66	93·95
0·50 in. to 0·99 in.	3·71	2·90	3·18	2·52	2·51	2·48	3·12	3 88	3·84	3·52	3·54	3·30	38·50
Less than 0·50 in.	2·31	1·72	2·30	2·01	2·30	2·22	3·24	2·74	2·20	2·72	2·46	2·11	28 33
TOTAL . .	18·33	13·55	15·25	8·48	7·90	7·54	10·79	13·35	15·74	15·42	15·36	19·07	160·78
Mean Amounts as Percentages.													
1 in. and over .	67	67	64	46	39	38	41	50	62	59	61	72	58
0·50 in. to 0·99 in.	20	21	21	30	32	33	29	29	24	23	23	17	24
Less than 0·50 in.	13	12	15	24	29	29	30	21	14	18	16	11	18
TOTAL . .	100	100	100	100	100	100	100	100	100	100	100	100	100
Mean Number of Days.													
With													
1 in. and over .	6·4	4 6	5·1	2·4	1·7	2·1	3·2	4·3	5·3	5·2	5·3	7·2	52·8
0·50 in. to 0·99 in.	5·2	3·9	4·4	3·5	3·6	3·5	4·4	5·3	5·3	4·9	5·1	4·1	53·2
Less than 0·50 in.	12·4	10·5	12·5	13·1	14·7	13·4	15·4	14·4	11·4	13·9	12·6	12·7	157·0
TOTAL . .	24	19	22	19	20	19	23	24	22	24	23	24	263·0
FORT WILLIAM RAINFALL, 1885–1903.													
Mean Amounts in Inches.													
DAILY FALLS—													
1 in. and over .	3·51	2·63	2·08	0·31	0·40	0·25	0·68	1·62	2·54	2·37	2·12	4·08	22·59
0·50 in. to 0 99 in.	2·92	2·09	2·24	1·32	1·00	1·13	1·30	2·33	2·85	2·90	2·59	3·37	26·04
Less than 0·50 in.	2·97	2·17	2·38	2·29	2·18	2 08	2·80	2·45	2·35	2·54	2·89	2·90	29·95
TOTAL . .	9·40	6·89	6·70	3·92	3·58	3·46	4·78	6·40	7·74	7·81	7·60	10·35	78·58
Mean Amounts as Percentages.													
1 in. and over .	37	38	31	8	11	7	14	25	33	30	28	39	29
0 50 in. to 0·99 in.	31	31	33	34	29	33	27	37	37	37	34	33	33
Less than 0·50 in.	32	31	36	58	60	60	59	38	30	33	38	28	38
TOTAL . .	100	100	100	100	100	100	100	100	100	100	100	100	100
Mean Number of Days.													
With													
1 in. and over .	2·4	1·6	1·4	0·2	0·3	0·2	0·5	1·2	1·7	1·5	1·5	2·8	15·3
0·50 in. to 0·99 in.	4·2	2·9	3·3	1·8	1·4	1·7	1·9	3·4	4·0	4·0	3·7	4·7	37 0
Less than 0·50 in.	17·4	13·5	16·3	14·0	16·3	14·1	18·6	17·4	14·3	16·5	16·8	16·5	191·7
TOTAL . .	24	18	21	16	18	16	21	22	20	22	22	24	244·0

The mean rainfall on the top of the mountain is thus slightly more than twice that at the foot. Here the two gauges differ in elevation by about 4370 feet, so that, if the increase of rainfall were proportional to the height, we should have an increment of about 2½ per cent. for each 100 feet of height. It is improbable, however, that an extended system of observations on Ben Nevis and the surrounding mountains would show any such definite law, and, probably, as in the Lake District of England, we should have all sorts of irregularities. Indeed the records for such stations as Glenquoich and Glencarron, in Western Inverness-shire, show that Symons's conclusion from his examination of the rainfall of the Lake District holds also for the West Highland area, that "the influence of position with respect to hills and valleys is far greater than that of altitude." *

We may, however, refer to Mr. Wragge's observations made from June to October in 1882 and 1883 at the top and bottom of the mountain and at "The Lake," nearly half-way up. The mean rainfalls for the five months' period at the three observing stations for the two years were as follows :—

	Height.	Mean Sum— June to October.
Summit . . .	4406 feet.	44·35 inches.
Lake . . .	1840 „	28·42 „
Fort William . .	46 „	21·96 „

If, however, the rate of increase with height had been uniform, the gauge at "The Lake" would have recorded an aggregate of 31·24 inches. Hence, during Mr. Wragge's observations, the increase with height was more rapid in the upper than in the lower part of the mountain. We can hardly generalise from this, but it may be pointed out that the ratio of the rainfall on Ben Nevis to that of Fort William was normal during the period, though the actual rainfalls were considerably below the average.

The question of the seasonal variation of the mean ratio leads to some most interesting considerations. Still employing our nineteen-year means, and expressing for each month of the year the relation of the fall at the top to the fall at the bottom, we have—

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.
Ratio .	1·9	1·9	2·3	2·2	2·3	2·2	2·3	2·2	2·1	2·0	2·0	1·9	2·05

Thus the ratio varies but little from month to month; possibly, indeed, the true curve differs even less from a straight line than that in the diagram below, for in winter northerly winds have their maximum frequency on Ben Nevis, and an additive correction may perhaps legitimately be applied to the high-level rainfall values, for the reasons explained at the beginning of this paper. But even taking the curve as it stands, we have the somewhat unexpected fact that for Ben Nevis and Fort William the vertical gradient of rainfall shows hardly any seasonal variation.

If we turn now to the records of a high-level station in a region of quite different geographical and meteorological conditions—the Puy-de-Dôme in Central France—we get a radically different curve. Taking the mean rainfall

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* *British Rainfall*, 1896, p. 24.

at the Puy-de-Dôme and at its base station Clermont for the eighteen-year period 1885–1902, and computing the resulting ratios, we have the following:—

TABLE VII.—RAINFALL ON PUY-DE-DÔME AND AT CLERMONT.

Means for Eighteen Years, 1885–1902.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Puy-de-Dôme	7·32	6·02	7·87	5·95	5·16	5·04	4·88	5·20	4·72	5·31	4·80	5·75	68·02
Clermont .	1·33	1·33	1·88	2·09	2·87	3·06	2·83	2·85	2·69	2·33	1·62	1·24	26·12
RATIO . .	5·5	4·5	4·2	2·8	1·8	1·6	1·7	1·8	1·8	2·3	2·9	4·6	2·6

[Puy-de-Dôme, 4813 feet; Clermont, 1273 feet.]

Thus for these two stations the ratio varies from 5·5 in January to 1·6 in June, and the general character of the curve, which is given in the accompanying diagram, is due to the fact that on the Puy-de-Dôme we have a decided winter maximum of rainfall, and at Clermont a decided summer maximum. On the other hand, the comparative straightness of the Ben Nevis curve depends on the fact that times of maximum and minimum are practically synchronous on the summit and at the base of the mountain. Of course our two pairs of stations differ considerably in elevation, yet in either case the conditions are nearly ideal, since Ben Nevis rises almost out of the sea, and the Puy-de-Dôme in an isolated position out of an extended level plain. We may add that an examination of other low-level records in the central France region confirms the general character of the Clermont–Puy-de-Dôme curve, with which, rather than with its actual amplitude, we are concerned.

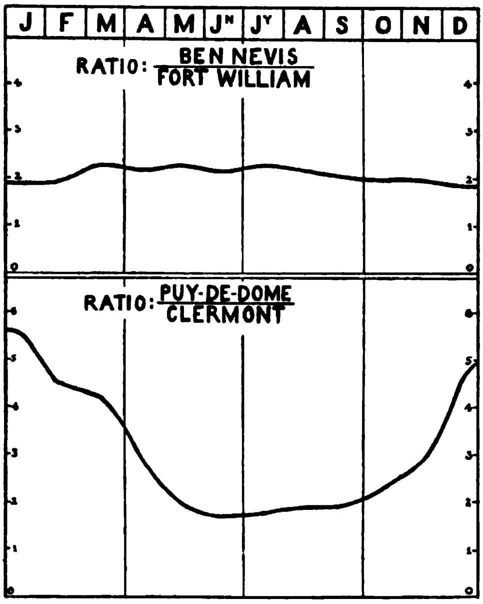

Fig. 2. Vertical Gradient of Rainfall.

These two very different curves suggest the following considerations. The main sources of rainfall are:—(1) The development of cyclones or low pressure areas, and (2) the vertical air currents produced by the sun's heat, which give us our heavy cumulus clouds on a summer afternoon, and at all inland and most tropical places a greater probability of rain by day than by night.

Now Ben Nevis lies in a track constantly under the influence of low pressure systems, whilst central France is a region much less frequented by such cyclonic disturbances. The proportion of rainfall due to this influence is therefore certainly greatly larger for Ben Nevis than for the Puy-de-Dôme, and one does not see any theoretical reason why the gradient of rainfall of purely cyclonic origin in a mountainous district in any given region should have a seasonal variation.

Again, local convectional currents affect chiefly summer rainfall, and will clearly be much more active in the continental climate of central France than in the west of Scotland. Now rainfall of local convectional origin must have a well-marked seasonal variation of vertical gradient—as explained by Hann and others. For imagine any given mass of air commencing a vertical ascent; as it ascends, the surrounding temperature diminishes, whilst the mass itself rising into strata of less pressure expands, and does work, and therefore loses heat; condensation takes place, clouds form, rain may fall. The height at which condensation will take place clearly then depends partly on the temperature of the upper air, and partly on the initial temperature and humidity of the mass at the beginning of its ascent. In summer, the air is drier than in winter, and both the upper and lower air much warmer, and therefore the level at which rain will be formed is—at least in a continental climate—thrust up to a height greatly above the winter level. For convectional rainfall there must always be a zone of maximum rainfall amount, and if in central France this zone should in winter embrace the level of the Puy-de-Dôme, and in summer, as is certainly the case, be far above it, and if a preponderating proportion of rainfall in that region is of local convectional origin, then the character of our curve is largely accounted for. As regards the Ben Nevis curve, we are in western Scotland in a region where both humidity and temperature vary much less from season to season, and where, therefore, the foregoing considerations will not affect the problem so greatly, and we have our curve determined by the overwhelming influence of cyclonic rainfall.

This is perhaps partly speculative, but the remarkable difference between the two curves could apparently be accounted for in some such way. We must remember, however, that rainfall on a mountain slope or summit may be very local, since the mountain itself deflects upwards winds that strike against it, often producing condensation just as in the case of local convectional currents. And this factor will be more influential on Ben Nevis with its precipices than on the Puy-de-Dôme. Indeed, in the case of the latter, such influences will be at a minimum, for that mountain rises with well-rounded comparatively easy slopes in an isolated position from a plain. We must further remember that the heated mass of a mountain will in summer tend to intensify local convectional currents.

It is doubtful if the available observations are sufficient to show whether or not the zone of maximum rainfall is reached in the west of Scotland at a height of 4400 feet; but for the reasons just indicated it is probable that there is comparatively little seasonal variation in the height of the maximum zone.

THE DIURNAL RANGE.

The diurnal range of rainfall amount may conveniently be represented by expressing the sum of each two-hourly period in thousandths of the total for the day. Considering only mean annual curves, and giving in this form the results for Ben Nevis, Fort William, and certain other places, we have—

TABLE VIII.—DIURNAL RANGE OF RAINFALL AMOUNT.

Yearly Means.

PLACE . .	Ben Nevis.	Fort William.	Valentia.	Kew.	Berlin.	San José.	Batavia.	Mauritius.	Hong Kong.
No. of Years .	(11)	(11)	(25)	(25)	(12)	(8)	(30)	(11)	(5)
0–2 A.M. .	82	85	88	83	76	14	79	82	85
2–4 " .	86	**88**	**93**	80	83	10	68	90	88
4–6 " .	83	**88**	**93**	84	74	8	71	97	103
6–8 " .	81	83	90	81	69	8	55	89	105
8–10 " .	82	78	84	81	*62	*7	*49	82	**112**
10–12 " .	83	*75	76	*76	68	25	62	*76	89
12–2 P.M. .	87	87	*74	92	85	129	91	93	84
2–4 " .	86	87	75	**94**	105	251	120	**94**	76
4–6 " .	**88**	82	80	91	104	**292**	**133**	79	69
6–8 " .	83	82	82	80	**113**	170	113	70	*59
8–10 " .	81	83	82	78	83	60	82	69	70
10–12 " .	*78	82	83	80	78	26	77	79	60

Maximum in heavy type; Minimum *.

The figures, except those for Ben Nevis, Fort William, and Mauritius, are from Hann's treatise, and the number of years of observations from which the curve has been computed is given in each case. The fact that the periods are of varying length matters little, as it is found that the diurnal range of rainfall becomes evident from a comparatively short series of observations. The Ben Nevis and Fort William curves have been smoothed by the formula, $B = \frac{1}{3}(A + B + C)$. Thus, *e.g.*, the amount referred to the period 4–6 A.M. is one-third of the actual fall between 2 and 8 A.M.

The abundant material available for the discussion of the diurnal range of rainfall has been analysed in detail by several writers,[*] and it is clear that here, as in the case of temperature and pressure, proximity to or distance from the sea has a determining influence on the curve. In a sea climate the amplitude of the curve is small, the maximum falling in the early morning, and the minimum in the afternoon; in a land climate the curve is inverted, and the amplitude much larger. Thus in our table Valentia is a typical sea climate and Berlin a typical land climate, whilst even at Kew the curve is of a moderately well-marked land type. Tropical stations, such as San José, in Costa Rica, and Batavia, have a curve of large amplitude, with a most decided afternoon maximum, although in the case of comparatively small islands within the tropical zone the curve may be disturbed or even reversed. Mauritius, for example, exhibits an extremely small range, whilst Hong Kong has a pronounced early morning maximum.

As Hann points out, the times of maxima and minima correspond approximately to the warmest and coldest times of the day. At inland stations the afternoon maximum is due to local convectional currents, whilst in sea climates we have an early morning maximum at the time when the air is most chilled by radiation, and condensation takes place from an atmosphere at or near the point of saturation. Of course both influences are at work, though in different degrees, in either sort of climate, so that secondary maxima and minima are occasionally well marked. Thus at Berlin we have a secondary maximum from 2 to 4 A.M., or about the time at which the principal maximum usually occurs in a sea climate.

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[*] Hann, *Lehrbuch der Meteorologie*, pp. 329–338; *v.* Bebber, in *Archiv der Deutschen Seewarte*, 1895; Polis, *Meteorologische Zeitschrift*, April 1902.

Thunderstorms, also, have in a land climate an afternoon maximum of frequency, whilst over the open sea they are "essentially nocturnal phenomena." This is as we should expect, since the same causes are at work. Indeed, whilst only a small part of the rainfall of any place may occur with thunderstorms, a very large part of it must really be classed as "thunder-rain," since it is associated with incipient or embryo thunderstorms when the atmospheric conditions approximate to those in which a fully developed thunderstorm will take place. We here quote Dr. Buchan:—"As regards thunderstorms over the land surfaces of the globe, the disturbance of atmospheric equilibrium, resulting in ascending and descending currents, is brought about mainly by the superheating of the surface, and thence of the lowermost strata of the air. But as regards the open sea, this mode of disturbing the atmospheric equilibrium cannot take place, inasmuch as the influence of solar radiation is only to raise the temperature of the sea not more than a degree. Hence it is probable that the disturbance of the equilibrium of the atmosphere in the case of thunderstorms over the open sea is brought about by the cooling of the higher strata of the atmosphere by terrestrial radiation." *

Considering now our Ben Nevis and Fort William curves, we observe that both are characterised by an extremely small amplitude. The Fort William curve may be described as that of a modified sea climate, a secondary maximum from noon till 4 P.M. being almost as well marked as the principal maximum in the early morning. This prominent feature of the curve may be due in part to the semi-inland position of Fort William, and in part to its situation at the foot of Ben Nevis, since the presence of the mountain will have most influence on the local rainfall during the warmest part of the day, when its heated mass will assist, or itself give rise to, local convectional currents. We note with some perplexity the very decided minimum on the top of the mountain towards midnight; but possibly this somewhat remarkable peculiarity of the curve is due to the fact that the force of the wind is greatest at a high level about midnight, when at a low level it is least. Certainly any natural inclination to a midnight minimum would be assisted by the high wind force, which must tend to blow the precipitation out of the gauge, and generally to make recording difficult.

Annual curves, such as those in our table, may, of course, obscure seasonal peculiarities of a pronounced character. We find, as a rule, that the characteristic features of any curve are more marked in summer than in winter. Thus at Berlin we have a more pronounced afternoon maximum in summer, and at Valentia a more pronounced early morning maximum. At Paris, which has a less decidedly continental climate than Berlin, and also at Kew, we find that

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* *Challenger*: "Report on Atmospheric Circulation," p. 33.

the afternoon maximum disappears entirely in winter, and that the curve becomes of the insular type. The cause of these seasonal variations is obvious as regards climates of the inland type, since local convectional currents are more active in summer than in winter. As to sea climates, we quote Hann's lucid explanation of the greater intensity of the morning maximum in summer:—

"The cause of this phenomenon is to be sought in the following considerations. By day the land is warmer than the sea, and the air that comes from the sea will spread over the drier land, whilst the rain that comes in from the sea will be more or less spent over the land. Hence there results at coastal places a tendency to an excess of rainfall by night, when the sea is warmer than the land, which is especially the case in the early morning hours. But this influence of the land is much more powerful in summer than in winter, . . . and the more intense heating of the land in the early afternoon in summer is the cause of a much diminished rainfall near the coast at that time of day. Hence there must be a tendency to a relatively greater excess of rain by night in summer than in winter." *

We give now the monthly curves of the diurnal range of rainfall amount for Ben Nevis and Fort William, the figures being based on the eleven years' observations 1891–1901, and the curves smoothed by the same process as the annual curves above.

TABLE IX.—DIURNAL RANGE OF RAINFALL AMOUNT.

BEN NEVIS.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
0–2 A.M. . .	84	83	82	89	73	81	78	89	81	84	*71	88
2–4 „ . .	91	85	85	88	83	81	77	**92**	92	85	78	86
4–6 „ . .	89	80	83	76	89	81	75	82	**95**	84	87	74
6–8 „ . .	90	*77	82	73	85	76	76	75	90	83	**92**	*72
8–10 „ . .	**95**	84	79	*71	80	78	*74	*73	90	86	**92**	78
10–12 „ . .	89	86	*77	79	86	*75	77	80	85	88	90	84
12–2 P.M. . .	81	83	82	**97**	**101**	86	79	89	79	**89**	91	88
2–4 „ . .	75	90	92	89	94	**91**	78	89	77	86	84	90
4–6 „ . .	*74	**91**	**96**	89	92	90	98	85	79	80	82	**94**
6–8 „ . .	77	80	86	84	80	**91**	**106**	87	79	*76	77	85
8–10 „ . .	79	80	78	83	70	89	96	79	78	78	81	80
10–12 „ . .	76	81	78	82	*67	81	86	80	*75	81	75	81
FORT WILLIAM.												
0–2 A.M. . .	77	79	87	87	81	**96**	86	87	81	97	78	86
2–4 „ . .	84	80	90	90	93	92	91	94	89	92	80	82
4–6 „ . .	89	80	88	85	99	88	82	82	100	89	84	73
6–8 „ . .	**95**	84	86	74	86	83	64	79	**104**	81	91	*63
8–10 „ . .	89	**96**	82	71	72	63	*59	75	98	78	**96**	67
10–12 „ . .	78	83	*67	*63	80	*51	65	83	86	72	88	78
12–2 P.M. . .	85	90	76	85	**108**	76	84	**97**	81	84	89	**95**
2–4 „ . .	85	87	**93**	**93**	103	92	82	91	74	76	79	93
4–6 „ . .	79	79	87	88	85	93	97	*74	72	*71	*73	88
6–8 „ . .	85	*75	81	85	68	92	**100**	76	73	76	77	89
8–10 „ . .	82	87	82	90	64	90	96	81	72	84	82	91
10–12 „ . .	*72	80	81	89	*61	84	94	81	*70	**100**	83	**95**

Maximum in heavy type; Minimum *.

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* Hann, p. 335.

Taking a very general view, the Fort William curves are those of a modified sea climate, whilst those for Ben Nevis are somewhat nearer the continental type. Thus Ben Nevis has a P.M. maximum in nine months of the year, and Fort William in every month at least a secondary A.M. maximum. In Fig. 3, the curves for January, April, July, and October (for the two places) are placed alongside one another, and a glance at these, and a study of the figures in the table, show that, alike in their anomalies and in their more regular features, the two sets of curves show in general a certain sympathy.

DIURNAL RANGE OF RAINFALL AMOUNT.

Ben Nevis. Fort William.

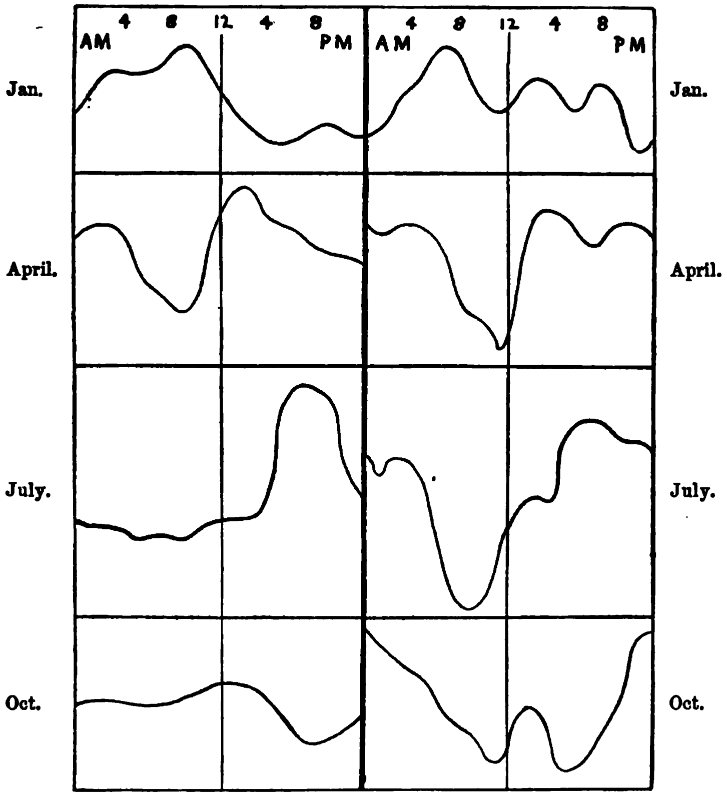

Fig. 3.

The amplitude of the Ben Nevis curves is less than that of those for Fort William, whilst at both places the greatest range is in the dry month of May, when pressure is at its maximum, and atmospheric conditions on an average more stable than in any other month.

The January curves have both a well-defined maritime character, and the July curves the characteristic afternoon maximum of the continental type. This relative increase of rainfall after midday in the warmest month of the year is what we should expect, since local convectional currents have then their maximum frequency, as already pointed out. The curves present many irregularities. It is difficult, for example, to understand why at Fort William the two-hourly period ending at midnight should in September be the driest, and in October the wettest, time during the twenty-four hours, whilst the extraordinary anomaly at both stations of an entire inversion between the curves for January and December is, to say the least, bewildering.

We have examined also the diurnal curves of rainfall frequency and intensity for each month of the year, and give the appropriate tables in the Appendix, but here merely summarise our conclusions. If the curve of rainfall frequency ran parallel to that of rainfall amount, then there would be no diurnal range of intensity. But we find, as regards our two stations, that the frequency curves for the various months show a comparatively small daily range, so that since the curves of rainfall amount are, as we have seen, complex and variable, it follows that the intensity curves must also be variable.

Again, adopting a fall of 0·003 inch as our unit for a "rainfall hour," we have Table B in Appendix, which gives for each month for the eleven-year period 1891–1901 the mean number of times rain has fallen for each two-hourly period of the day. The main features of this table are an early morning maximum of frequency, followed by a minimum towards and about noon. At Fort William the noon minimum is strongly marked, the range of frequency being much greater there than on Ben Nevis. We note on the top of the mountain a tendency to a secondary maximum of frequency in the afternoon, which is not apparent at Fort William.

Our frequency table is in form directly comparable with our amount table (IX.), so that we have at once Table C in Appendix, in which is given the average weight of each two-hourly fall. Here we at once perceive, as regards Ben Nevis, an early morning minimum of intensity, and an early P.M. maximum, the curves for January and October being abnormal. At Fort William the intensity minimum falls most frequently from 8 to 10 A.M., or slightly later than on Ben Nevis, whilst the maximum falls about noon.

Speaking very generally, we may say that, at the foot of the mountain, rain falls more frequently, but less heavily, by night than by day; whilst on the summit the variations are less pronounced, though they are, on the whole, in sympathy with those at Fort William.

[APPENDIX.

APPENDIX.

TABLE A.

BEN NEVIS DAILY RAINFALL, 1898.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	·13	2·16	1·18	·19	·64	1·56	·17	1·56	·45	·26	1·80	4·47
2	·06	2·41	·18	·72	·80	...	1·14	3·98	4·10	·56	5·39	1·62
3	...	1·48	·26	·97	·27	·55	1·08	·58	1·69	·01	1·37	2·00
4	2·09	·01	·07	·11	·48	·56	·08	·46	...	...	1·69	2·68
5	·06	·27	·20	...	·88	·19	·72	·95	...	...	1·28	1·70
6	1·02	1·58	...	·91	·07	·77	2·11	·23	...	...	·10	1·19
7	·62	·89	...	·54	·11	·10	·26	·09	·04	...	·44	1·36
8	1·07	·76	...	·13	·68	...	...	·06	·35	...	·01	·38
9	·51	·97	·12	1·22	·24	...	...	...	·73	·14	...	1·61
10	1·13	1·06	·41	1·94	·48	...	...	1·41	·98	·02	...	2·56
11	1·29	1·34	·09	·98	·65	...	·01	·35	·66	...	...	3·56
12	81	1·35	·54	·27	·18	...	·11	·60	·59	...	·75	1·64
13	·62	1·75	1·17	·44	·08	...	·02	·35	1·74	·10	·38	·26
14	·43	1·81	·61	·02	...	...	·02	·19	1·62	·56	·58	2·50
15	...	2·75	1·05	·74	·91	...	·01	...	·37	...	·14	·09
16	...	1·49	1·28	·09	·10	...	·51	·05	...	·02	·34	1·92
17	·42	...	4·50	...	·18	·05	2·27	...	·60	·38	·78	1·02
18	1·25	...	5·48	·01	...	1·35	1·08	...	1·52	·38	...	1·85
19	2 80	2·00	·18	·17	...	·29	...	·05	·12	·39	...	·98
20	·20	·41	·20	...	...	·88	...	·07	5·37	·65	·12	·71
21	·56	·46	·06	...	...	·29	...	·02	·15	·33	·65	·08
22	1·21	·06	·59	...	·46	·58	·04	·60	...	1·58	·85	·03
23	·65	...	·32	·58	...	·96	·32	·50	...	·55	·86	1·66
24	·03	...	·10	·12	...	1·38	...	·18	...	1·35	2·24	·28
25	...	1·13	·17	...	...	·43	...	·10	...	3·63	·67	3·17
26	1 87	1·60	·02	...	·01	...	...	1·45	...	1·07	...	2·36
27	1·70	1·46	·09	...	·07	...	·02	1·02	·28	·30	...	·98
28	·20	·89	·16	·11	·18	...	1·05	·96	2 34	·15	·16	·81
29	2·35	...	·12	·45	1·18	·30	·04	·88	·51	...	·34	...
30	3·14	...	...	·05	·16	·13	03	1·78	·74	·52	·98	...
31	·86	...	·02	...	·63	...	·70	·18	...	·91	...	·28
	27·08	30 09	19·07	10·76	8·74	10·37	11·74	18·60	24·90	13·86	21·27	43·65

Total = 240·13 inches.

FORT WILLIAM DAILY RAINFALL, 1898.

	Jan.	Feb.	Mar.	Apr.	May	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	·02	·88	·38	·25	·48	·24	...	·13	·07	·02	1·88	2·42
2	·02	·66	·04	·17	·13	·03	·46	1·98	·88	·08	2·62	·40
3	...	·44	·01	·26	·13	·38	·04	·06	·57	·05	·64	1·50
4	1·46	...	·01	·02	·06	·24	...	·14	...	...	·70	2·67
5	·03	·21	·23	...	·12	·18	·32	·63	...	...	·42	1·85
6	·46	·30	...	·54	·01	·34	·22	·01	...	...	·07	1·08
7	·19	·21	...	·48	·04	·08	...	·07	·02	...	·04	·47
8	·63	·16	...	...	·07	...	...	·02	·47	...	·01	·53
9	·18	·76	·03	·73	·01	...	...	...	·38	·18	...	·79
10	·98	·58	·03	·99	·41	...	...	·78	·29	·01	...	1·08
11	·67	·58	·18	·25	·51	...	...	·16	·33	...	...	1·23
12	·48	·96	·20	·18	·02	...	...	·33	·19	...	·57	·86
13	·30	·77	·88	1·82	...	...	...	·07	1·08	...	·06	·05
14	·27	·40	·17	...	...	...	...	·05	·45	·08	·28	·79
15	·02	1·68	·46	·42	·23	...	...	...	·07	·03	·01	·01
16	...	·58	·47	·08	·03	...	·16	...	...	...	·08	·49
17	·79	·01	1·78	...	·26	·04	1·03	...	·37	·18	·13	·62
18	1·28	...	1·97	·02	...	·65	·07	...	·46	·16	...	·89
19	2·04	·70	·01	·22	...	·03	...	·02	·15	·02	...	·25
20	·03	·07	·08	·02	...	·20	...	·01	2·38	·03	...	·16
21	·33	·04	·02	...	...	·16	...	...	...	·11	·15	...
22	·69	·01	·25	...	·11	·22	·04	·32	...	1·80	...	·02
23	·27	...	·02	·25	...	·68	...	·05	...	·83	·03	1·82
24	·01	...	...	·02	...	·70	...	...	...	·84	·32	·28
25	·01	·57	·04	...	...	·15	...	·07	...	·46	·08	1·44
26	·55	·41	...	...	...	...	...	·78	...	·87	·01	1·33
27	·11	·40	...	...	...	...	...	·39	·27	·41	...	·52
28	·02	·13	·01	·02	·07	...	·32	·55	·68	·26	·02	·14
29	1·09	...	·12	·07	·14	·05	...	·15	·31	·16	·15	·02
30	·88	...	·02	·01	·08	...	·01	·62	·23	·01	·27	...
31	·51	...	...	...	·05	...	·17	·01	...	·29	...	·35
	14·22	11·86	7·41	6·77	2·91	4·27	2·84	7·30	10·60	6·88	7·99	24·01

Total = 106·51 inches.

TABLE B.—Rainfall Frequency. Mean Number of Occurrences. Eleven Years, 1891–1901.

Ben Nevis.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
0–2 a.m. .	26	22	23	19	16	17	23	23	25	24	25	30	22·8
2–4 ,, .	28	22	24	18	17	17	22	24	24	25	25	32	23·2
4–6 ,, .	28	22	25	17	18	18	24	24	25	22	26	30	23·2
6-8 ,, .	28	21	24	17	16	15	21	21	25	23	26	30	22·2
8–10 ,, .	27	21	25	16	16	15	18	20	24	24	25	29	21·7
10-12 ,, .	26	22	26	16	17	15	19	21	22	23	26	30	21·9
12–2 p.m. .	26	20	23	17	16	15	20	22	21	26	24	31	21·8
2–4 ,, .	27	21	24	17	17	18	19	22	22	26	24	30	22·2
4–6 ,, .	26	22	24	18	17	17	20	20	22	25	24	31	22·2
6–8 ,, .	27	20	24	17	17	18	22	22	24	24	24	32	22·6
8–10 ,, .	26	19	23	17	15	17	21	23	23	23	24	31	21·8
10–12 ,, .	23	21	23	17	18	17	22	23	22	23	24	31	22·0

Fort William.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
0-2 a.m. .	22	17	17	16	11	11	12	15	17	19	18	26	16·6
2–4 ,, .	22	18	19	16	11	12	14	17	19	17	18	25	17·3
4–6 ,, .	23	18	19	15	14	12	14	16	19	18	21	25	17·8
6–8 ,, .	21	17	19	15	14	11	12	14	19	17	21	25	17·1
8–10 ,, .	22	18	20	14	11	10	12	15	19	18	21	24	17·0
10–12 ,, .	15	13	13	10	9	7	9	12	12	13	15	18	12·2
12–2 p.m. .	17	14	16	13	9	10	9	14	14	18	16	24	14·5
2–4 ,, .	19	13	16	14	10	11	11	14	14	17	16	25	15·0
4–6 ,, .	20	16	16	14	10	11	13	14	15	16	17	24	15·5
6–8 ,, .	19	15	16	13	9	10	13	15	17	17	18	24	15·5
8–10 ,, .	19	16	18	13	9	10	13	15	16	18	19	25	15·9
10–12 ,, .	20	16	16	14	8	11	14	15	17	19	19	25	16·2

For explanation see text.

TABLE C.—Mean Rainfall Intensity. Eleven Years, 1891–1901.

Ben Nevis.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
0–2 a.m. .	·110	·107	·106	·090	·071	·080	·076	·107	·117	·100	·096	·131	·099
2–4 ,, .	·112	·111	·104	·094	·075	·080	·077	·106	·135	·098	·105	·121	·102
4–6 ,, .	·109	·102	·097	·087	·077	·075	·069	·094	·135	·110	·111	·110	·098
6–8 ,, .	·112	·105	·101	·086	·083	·084	·081	·098	·127	·108	·118	·106	·100
8–10 ,, .	·120	·115	·093	·085	·078	·087	·090	·101	·132	·103	·122	·121	·104
10-12 ,, .	·118	·112	·087	·096	·079	·084	·089	·106	·137	·109	·114	·124	·105
12-2 p.m. .	·108	·118	·104	·111	099	·097	·087	·112	·136	·098	·125	·126	·110
2–4 ,, .	·096	·122	·118	·103	·087	·084	·091	·118	·127	·094	·115	·133	·106
4–6 ,, .	·098	·117	·118	·096	·085	·088	·108	·118	·128	·092	·112	·135	·108
6–8 ,, .	·099	·113	·105	·096	·074	·084	·106	·111	·118	·092	·107	·121	102
8–10 ,, .	·104	·119	·101	·094	·073	·087	·101	·095	·123	·096	·112	·115	·102
10–12 ,, .	·093	·110	·099	·095	·082	·080	·090	·096	·123	·101	·105	·118	·099

Fort William.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year
0–2 a.m. .	·045	·060	·063	·048	·048	·065	·066	·077	·082	·074	·068	080	·065
2–4 ,, .	·059	·058	·059	·049	·055	·057	·059	·074	·081	·081	·069	·079	·065
4–6 ,, .	·060	·058	·057	·049	·046	·055	·054	·069	·091	·073	·064	·071	·062
6–8 ,, .	·071	·064	·055	·043	·040	·056	·049	·075	·094	·071	·067	·062	·062
8–10 ,, .	·065	·069	·050	·044	·044	·047	·045	·067	·089	·064	·072	·067	·060
10–12 ,, .	·078	·082	·064	·057	·058	·055	·066	·095	·122	·082	·092	·108	·080
12–2 p.m. .	·078	·082	·058	·058	·080	·056	·085	·092	·090	·069	·087	·097	·078
2–4 ,, .	·070	·086	·071	·058	·068	·062	·068	086	·090	·067	·077	·090	·074
4–6 ,, .	·063	·064	·067	·054	057	·064	·069	·070	·082	065	·067	·089	·068
6–8 ,, .	·070	·065	·062	·057	050	·068	·072	·067	·075	·065	·067	·089	·067
8–10 ,, .	·067	·070	·056	·061	047	·066	·068	·071	·078	·069	·067	·088	·067
10–12 ,, .	·057	·066	·061	·055	·050	·056	·060	·071	070	·077	·068	·091	·065

For explanation see text.

3.

NOTES ON THE WEATHER ON THE VATNA JÖKULL DURING AUGUST AND SEPTEMBER 1904.

By T. S. MUIR, M.A.

THE Vatna Jökull is a vast snowfield in the south-east of Iceland. Its area is approximately 4000 square miles, or about one-tenth of that of the island, and it forms the largest continuous field of snow in Europe. From it descend vast glaciers, two of which reach sea-level. It is elliptical in shape, and resembles a huge crater filled with snow. The interior is a plateau varying in height from 3500 to 5000 feet above sea-level, rising gently from east and west to the main watershed which runs north and south from Kverkfjoll to the Öræfa Jökull. Round the margin are series of mountain-masses, some of which contain peaks higher than any known point of the Jökull itself. The word "Jökull" is employed loosely for a snowfield, glacier, or ice-mountain. A word exists for a true glacier, which may be translated "creeping ice-sheet," but it is not in common use. "Vatna" is from a root meaning "water," and is derived from the destructive outbursts of boiling water caused by volcanic heat melting the ice, which have occurred in historic times. Indeed, perhaps the most interesting feature in connection with this Jökull is that not only the mountain-masses on the margin, but the bed of the snowfield itself, are volcanic in nature, and that eruptions have taken place underneath the thick covering of ice and snow.

Save for passing references in the works of Olafsen and Povalsen, Forbes, MacKenzie, Henderson, Burton, and a few other travellers and tourists, no notice was taken of the Vatna Jökull till about thirty years ago. In 1875 Mr. W. J. Watts crossed the snowfield from south to north near its western extremity, a distance of about forty miles. He was accompanied by six Icelanders, and encountered great difficulties from storms and soft snow. The little volume which he published contains a minimum of information, conveyed in a very vague manner. The only two facts which a reader can seize hold of, viz. the lowness of temperature and the variability of the compass, were quite contrary to our own experience. From that time till last year, save for visits to various parts of the margin by Dr. Thoroddsen, the most indefatigable of travellers in Iceland, Dr. Anderson, and Captain Bruun, who in 1902 made a few hours' excursion on the Bruar Jökull in the north, the Vatna Jökull has been left severely alone. The sole feeling it inspires in the minds of the natives is one of mingled dread and repugnance. One of the principal guides in the island to whom I applied for information, in an endeavour to dissuade us from our undertaking, said that had we asked him he would not have accompanied us for any sum we liked to name. Last summer a Danish Government party surveyed part of the southern margin of the Jökull, and they conclude the list of our predecessors.

On the 6th of August 1904, Dr. Wigner and I reached a point on the north-eastern margin of the Jökull about five miles south of the prominent mountain of Snaefell. Here we dismissed our guides and ponies, and after a week spent in preparations and in shifting camp along the ice to an old moraine about two miles farther west, we finally took the plunge into the interior on the 13th. Progress was slow and irregular, owing at first to the upward slope, surface streams, and soft snow, and later, to the prevalence of fog, which made steering very difficult. After covering a distance of eighty miles in a south-westerly direction with the sledges, besides as many more in excursions from different camps, we gained the southern margin near the sources of the Djupá on 3rd September. The period under review then consists of twenty-nine days.

As we were alone, and therefore had to do all the manual labour of hauling sledges, etc., we had small leisure for scientific work. We were able, however, to do a little amateur geologising (on the few occasions when any rocks were met with), a fairly accurate route-survey with the aid of pocket sextant, compass, and sledge-odometer (the latter being tested on all conditions of snow surface); a large number of photographs were taken, and a series of seventy-five meteorological observations secured. Our meteorological equipment was of a very modest nature. It consisted of two aneroids, two sling thermometers, and a boiling-point apparatus. We found it impossible to take regular observations at fixed hours every day, as we hauled the sledges whenever the snow was suitable. It did not take us long to discover that any such practice as getting up at 6 A.M., starting at 8.30, lunch at 1, halt for the night at 6 or 7 P.M., dinner and sleep about 10 or 11, could not be carried out. After various experiments we settled down to getting up before dawn, starting as soon as we could, and going on till the snow got too soft, usually about noon. Consequently observations were taken irregularly at all hours of the day or night, almost invariably on pitching and striking camp, and always when any prominent point was reached, such as the top of a mountain. On one day, the 16th of August, a day of fog and drifting snow, no observations were taken, owing to illness, and on another, the 21st, an afternoon and night of violent blizzard, the thermometer was merely pushed through a hole in the tent, and dangled for a minute or two. As a matter of fact it made little or no difference, as our tent was on that occasion somewhat too well ventilated and there was no artificial heat.

Pressure.—As we had only aneroid barometers with us, and as unfortunately the hypsometric apparatus was lost in the first snowstorm, little can be said about barometric pressure. Through the courtesy of Miss Jensen, the observer, I was able to obtain the Reykjavik records for August, and may note briefly the conditions for that month. During the first few days Reykjavik was in a shallow depression, reaching its lowest point—29·634 inches—at 2 P.M. on the 6th. Thereafter anticyclonic conditions prevailed, the barometer reaching 30·217 at 8 A.M. on the 9th. Falling to a minimum of 29·654 at 9 P.M. on the 14th, it steadily rose, and remained at a high level from the 18th to the 24th, the maximum, 30·347, being attained at 8 A.M. on the 23rd. For a day or two pressure remained steady, but at the end of the month a rapid fall took place, the reading at 9 P.M. on the 31st being 29·311. The most prominent features, then, are the well-marked anticyclone in the third week, the barometer remaining above 30 inches for seven days, and the depression at the close, when it fell below 29·5 inches. Our absolute minimum on the Jökull was exactly 25 inches, at the highest point reached with the sledges. It occurred at 9 A.M. on the 22nd, on the watershed, at an estimated height of 5000 feet above sea-level, and the synchronous reading at Reykjavik was 30·315.

Temperature.—The question of temperature naturally interested us most from a practical point of view. Upon the condition of the snow our progress depended. A fraction of a degree above or below the freezing-point made all the difference in the world. We did not experience any great degree of cold. Nansen in his crossing of Greenland, which, however, was accomplished rather later in the season, had as much as 50 degrees of frost. Drawing conclusions from Icelandic books of travel we had expected and were prepared for conditions such as obtain on the high Alps of Switzerland. In actual fact, however, it was never either so cold or so hot. For the first eight days we were greatly delayed, and the work rendered extremely hard, by the obstinacy of the temperature in staying between 35 and 40 degrees. For the next eight days, during which the greater part of the snow journey was covered, the thermometer did not rise above freezing-point. The lowest reading of 22°·3 was recorded at 7 P.M. on the 22nd, and, as at 3 A.M. next day it was 24°·5, the absolute minimum could not have been much lower. The maximum while we were on the Jökull was 38°·8 at 11 A.M. on the 13th, and the mean I estimate at about 30 degrees. The Reykjavik maximum was 64·6 at 4 P.M. on the 9th, the corresponding temperature at our second camp at a height of about 2200 feet above sea-level being about 50 degrees. The temperature at Reykjavik at the time of our minimum was 51°·8, a difference of 29°·5, but at 3 A.M. next morning it was 43°·7, a difference of only 19°·2. The mean temperature at Reykjavik for the month was 52°·5.

Cloud and Sunshine. — The chief feature in this connection was the prevalence of mist and fog. On account partly of the proximity of the sea, but principally of the large area of snow, a day of sunshine was followed almost invariably by fog or mist at night, which sometimes continued over the next day. There were only two practically cloudless days, and those immediately succeeded storms. Fog occurring at night was peculiarly irritating, because it made steering impossible just at the time when the snow was in the best possible condition for the sledges. When the fog was thin, or in the daytime, it was just practicable to keep the right direction by moving from one slight discoloration to another, but when it was dense all looked the same, and we were compelled to camp. If we had had a third man to do nothing but walk ahead with a compass in his hand it would have been different.

From the 6th to the 31st there was sunshine on 18 days, and on 10 of these the amount was considerable. On only one occasion did the glare from the snow cause any inconvenience; indeed, for the most part we did not even wear spectacles. All over we suffered less on that account than frequently on a single day in the Alps. The reason for our immunity was probably the fact that on the whole there was little new snow.

Rain and Snow.—Rain or snow fell on 16 days out of the 29, but in no great quantity except on the 11th, 14th, 15th, 16th, and towards the end of the month and the beginning of September. During the storm from the 14th to the 17th, snow crystals of considerable size formed on the tent ropes and other favourable exposed surfaces. Some of these were as much as three inches in length.

Wind.—Even before temperature in the matter of personal comfort is the importance of wind. On a snowfield totally devoid of shelter, the most desirable condition of the atmosphere is that of stillness. On no occasion while we were on the Jökull was I able to record a "calm." Out of 58 observations the wind was northerly (*i.e.* north-west to north-east) on 40 occasions, and southerly on the remainder. The strongest winds were from the north, and all the bad weather of consequence came from that direction. During the storm in the middle of the month the velocity varied up to 30 miles an hour, while the north-easterly gale on the 21st was at the rate of about 60 miles an hour, causing us very considerable anxiety as to the stability and toughness of our tent. During the period of high barometer at Reykjavik (*i.e.* 18th to 24th), 200 miles away to the west our wind was north-east for two days, west for a day and a half, then north-east again. At that time we were nearer the southern than the northern margin of the snowfield, but still well within it.

Summary and General Remarks.—Mist and rain prevailed from the evening of August 5th till noon on the 6th, after which the weather was fine and sunny till the 11th. Rain fell from 2 P.M. on that day till early next morning. The next two days were fine, but from the 14th till the morning of the 17th was misty, with rain, followed by sleet and snow. Thereafter it was fine, with occasional fog, especially at night. But on the 19th came low driving mist, with snow squalls, and on the 21st the blizzard, already mentioned, which must have been very local, as the barometer at Reykjavik was high. Fine weather prevailed till the 24th, and from then onwards it was extremely broken and showery. The month of September was marked by high winds and frequent rains, with a very occasional fine day.

One of the things which impressed us most while on the Jökull was the remarkable clearness of the atmosphere as compared with lower levels. At first we were in the habit of ridiculously under-estimating distances, although we had long acquaintance with high mountains, a mistake which was reversed on our journey along the coast to Reykjavik. On reaching the watershed we steered directly for a prominent peak which we thought was fifteen or at most twenty miles away, but which turned out to be almost exactly at double the former distance.

Although the temperature was never really low, we suffered considerably from cold, in fact we were never warm unless at work with the sledges. Even when the sun was at its brightest its heat was always tempered by a cold breeze, which made sitting unpleasant except in the tent. Further, the fact that one's clothes were always more or less wet, and the proximity of the snow to one's body when lying down, made it seem colder than it actually was.

There seems little doubt that the climate of Iceland has deteriorated in historic times. The forests have given place to insignificant thickets of birch; grain is no longer cultivated to any appreciable extent; even the wild oats which once flourished in the south are fast dying out. The great enemies, say the Icelanders, are wind, which balks their attempts at re-afforestation, and damp, which rots the seed before it has time to sprout.

Last year Professor Hann,* in a paper read before the Academy of Sciences at Vienna, said that, having investigated the records of the weather in Iceland from 1851 to 1900, he was enabled to confirm Dr. Buchan's rule that a mild climate in north-western and central Europe is associated with low pressure over Iceland.† Professor Hann showed also that the converse was the case. It may be interesting to note here that it is a commonplace with traders and sailors who voyage frequently between this country and Iceland that bad weather here means good weather there, and *vice versâ*. It is certainly the case that the month of September last was very broken in Iceland and remarkably fine in Scotland, and the same was true of October. Our own passage home was marked by strong gales in the North Atlantic, and smooth seas and bright sunshine from the Orkneys to the Firth of Forth.

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* Die Anomalien der Witterung auf Island in dem Zeitraume 1851 bis 1900, etc. Aus den Sitzungsberichten der Kaiserl. Akadamie der Wissenschaften in Wien. Jan. 1904.

† *Journal Scot. Met. Soc.*, new series, vol. ii. p. 66, 1867.

4.

MEMORANDUM

BY THE

DIRECTORS OF THE BEN NEVIS OBSERVATORIES.

November 1904.

THE Directors of the Ben Nevis Observatories, which, as already announced, were closed on 1st October, cannot allow the occasion to pass without publishing a brief statement of the circumstances in which these Observatories have at last been discontinued. The maintenance of the two stations at Fort William and on the summit of Ben Nevis has involved an average yearly expenditure of £1000. Of this sum, £350 has been supplied by the Meteorological Council out of its Annual Parliamentary Grant of £15,300 for meteorological purposes, the remaining and larger portion of the amount being made up from money collected for the purpose from various private sources. The pecuniary burden thus imposed has pressed for twenty years on the Directors of the Observatories, and had at last become so onerous that, in June 1902, they were compelled to intimate that as they could no longer raise the requisite funds it had become necessary to close the two establishments at the beginning of the following October. The publication of this resolution led to questions being raised in Parliament on the subject, and to the appointment of a Treasury Committee to consider the whole question of the Annual Grant made to the Meteorological Council. As there was reason to hope that the inquiries of this Committee might lead to an adequate support of the Ben Nevis Observatories from public funds, the Directors succeeded in raising enough money to keep the two stations at work until the decision of the Committee should be obtained, the subsidy of £350 from the Meteorological Council being also temporarily continued.

The Directors naturally expected that the question which had led to the institution of this Committee would be adequately dealt with in the report. Some of their number, including the two secretaries, were examined, and fully stated their case, besides handing in detailed memoranda regarding the history, work, and cost of maintenance of the Observatories. Yet, with all this information before them, the Committee state in their report that "it appears that only £350 per annum is required to ensure the continued maintenance of the Observatories." The Directors lost no time in calling the attention of the First Lord of the Treasury to this "inexplicably erroneous" statement, and in appealing to him that means should be found to prevent the abandonment of the Observatories. The Treasury, however, could not see its way to any further increase of the contribution from the Parliamentary Grant, but offered to continue the allowance of £350 a year hitherto received from the Meteorological Council.

As this arrangement would have left the Directors exactly where they were before, face to face with the impossibility of continuing to raise £650 every year, and with the obvious hopelessness of obtaining adequate pecuniary support from the Government, there was no alternative but to close the Observatories (see *Appendix*).

It is to the Directors a matter of profound disappointment that in this wealthy country it should have been found impossible to obtain the comparatively small sum required to carry on a work of great scientific value and interest, and that they are now obliged to dispose of the Observatory buildings and dismiss the staff.

The close bearing of the Ben Nevis observations upon European meteorology has been recognised by the German Meteorological Office (*Seewarte*), which applied for, and has regularly received by telegraph, daily weather readings from the high- and low-level stations, and has sympathetically expressed sincere regret that these valuable data are to be no longer available. Had the Ben Nevis records been continued, and compared by those engaged in framing the daily weather forecasts with the telegrams received from other stations, it is not too much to believe that they might have been found to furnish valuable data towards an accurate and scientific forecasting of the weather. On this ground alone the Observatories appear to the Directors to have been worthy of public support. On the other hand, from a scientific point of view, the work done there may be classed among the most important contributions which have recently been made to British meteorology.

APPENDIX.

The Ben Nevis Observatory was in operation for nearly twenty-one years, hourly readings of the instruments by day and night having have been made continuously since December 1883. The Observatory in Fort William was begun on the 1st of August 1890, and hourly readings of the chief meteorological elements have been obtained by self-registering instruments there. A record has thus been obtained for over fourteen years of simultaneous hourly values at the two stations, which contains data of quite exceptional value in meteorological science, of indeed, unique value, because, firstly, there is no pair of associated stations, high- and low-level, so favourably situated as Ben Nevis and Fort William; and secondly, because there is no mountain station which can compare with Ben Nevis in the completeness of its system of hourly records of the ordinary meteorological data.

In 1902 the Directors, having completed twelve years' records, resolved to close the Observatories, and in a Memorandum issued by them, stated the reasons for doing so, namely, that the money subscribed by the public was exhausted, and that applications made to the Meteorological Council and to the Treasury for an increased subsidy had been refused (see Memorandum and accompanying documents, *Journal of Scottish Meteorological Society*, vol. xii. pages 161 et seq.).

The proposed closure of the Observatories was referred to in Parliament during July and August 1902, and on 4th August it was announced by the Prime Minister that an inquiry would be held into the expenditure by the Meteorological Council of the Parliamentary Grant for Meteorology. The Directors were consequently urged by Members of Parliament and others to endeavour to keep the Observatories in operation till this inquiry was completed. At the instance of the Prime Minister, the Meteorological Council agreed to continue their Grant, which they had given notice of withdrawing and the Directors obtained from Mr. Caird, of Dundee, Mr. Coats, of Paisley, and a few other gentlemen interested in the Observatories, sufficient funds to meet the balance of the expenditure for two years, that is to October 1904.

In the autumn of 1902 a Committee was appointed by the Treasury, with instructions "to inquire and report as to the administration by the Meteorological Council of the existing Parliamentary Grant, and as to whether any changes in its apportionment are desirable in the interest of meteorological science, and to make any further recommendations which may occur to them, with a view to increasing the utility of that Grant."

In the evidence laid before the Committee by those of the Directors who were examined, and in Memoranda handed in by these witnesses, it was clearly stated that the cost of maintenance of the two Observatories was £1000 a year, and that the Directors could not, with any hope of success, make further appeals to the public.

All this appears in the Volume of Evidence appended to the Report of the Committee, which was issued in June of this year. Yet the Committee, in that Report, assume that the cause of the stoppage of the Observatories was the withdrawal of the Grant of £350 a year by the Meteorological Council, and, after stating (par. 36) "that on public and economic grounds it would constitute a bad bargain to allow the Observatories to disappear," go on to say, "it appears that only £350 per annum is required to ensure the continued maintenance of the Observatories."

As this latter statement gave quite a false impression of the financial position of the Observatories, and was likely to mislead the public and the Government, the following letter from the Office-bearers of the Scottish Meteorological Society was sent to the Prime Minister:—

Scottish Meteorological Society,
14th July 1904.

Sir,—The Directors of the Ben Nevis Observatories desire very respectfully to submit to you the following statement as to the continuance or abandonment of these Observatories. They venture to approach you directly on the subject, because your personal action prevented their closure in 1902. Your recommendation, then made to the Meteorological Council,[*] that the Grant of £350 a year should be continued by the Council till the Committee, appointed at your instance to inquire into the administration of the Grant of £15,300, had reported, was acted on, and that sum added to funds obtained by the Directors from the public was sufficient to prevent their closure.

The Report of the Committee is now issued, and in par. 36 they say—

"We find, after weighing all the circumstances, that on public and economic grounds it would constitute a bad bargain to allow the Observatories to disappear. Such a proceeding would involve the sacrifice of a large capital outlay which has been expended on works, and the loss of the property and 'goodwill' subsisting in the maintenance of the building and plant."

In the same paragraph they then make an inexplicably erroneous statement, namely—

"It appears that only £350 per annum is required to ensure the continued maintenance of the Observatories."

The Directors call the statement inexplicably erroneous because it so strongly contradicts the full and complete information regarding the cost of carrying on the work of the Observatories supplied to the Committee. This information was supplied in documents sent to each member of the Committee by the Directors of the Observatories; but, what is perhaps of more importance, it was supplied with as much fulness by persons appearing before the Committee for examination, for instance, by Lord Kelvin,[†] by Sir John Murray and Dr. Buchan,[‡] and by Mr. Omond.[§]

In all this information it was distinctly stated that the annual cost of the Observatories was about £1000, that is £650 more than the £350 which the Committee in their Report erroneously say is all that is required "to ensure the continued maintenance of the Observatories." Of this £650, from £50 to £100 can almost certainly be provided by the Directors from the sale of road permits to the summit and communications to newspapers. In other words, at least £600 annually is absolutely necessary to carry on the Observatories, in addition to the £350 from the Meteorological Council.

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[*] Report of the Meteorological Council for the year ending 31st March 1903, page 25.

[†] Question No. 1441.

[‡] Questions Nos. 682–683 and 686–692.

[§] Questions 1630 and 1661.

All moneys in the hands of the Directors for carrying on the Observatories are exhausted, and in their opinion it would be quite impossible to obtain more money from the public. During the last six years the Observatories have been kept in operation by the munificent action of a few gentlemen. Mr. Mackay Bernard, of Dunsinane, gave four subscriptions of £500 each to enable the Observatories to complete twelve years' work—a sunspot period, from August 1890 to October 1902. Mr. J. K. Caird, of Dundee, afterwards gave a subscription of £1000, Mr. James Coats, of Paisley, one of £250, and other gentlemen gave subscriptions of £100 each. These subscriptions were given for the purpose of keeping the Observatories in operation till the Committee had made their inquiry and had reported, and they were all needed in addition to the £350 a year from the Meteorological Council. All this was made known to the Committee.

There is no course now open to the Directors but to abandon the Observatories in October of this year, unless the Government can in some way provide £600 in addition to the £350 from the Meteorological Council. The Directors cannot send stores of food, fuel, etc., to the High-level Station for next winter, a work which has to be done before the end of September, till they know that these sums will be at their disposal.

The Directors very respectfully desire you to consider whether the State cannot devise some way of preventing the immediate abandonment of the Observatories, and whether it is not extremely desirable to keep them in operation even for one other year in order to give time for consideration, for the reason that the Report of the Committee settles nothing as to the importance or the reverse of high-level observations either in forecasting or research. The Committee appear to have regarded this question as outside their Remit, and this seems to the Directors to be a correct view of the Remit. The outcome of the work of the Committee discloses nothing as to whether it is of importance to continue the Observatories. That question stands where it did before the appointment of the Committee. But the Directors are strongly of opinion, and they are supported in that opinion by high authority, that it is a question which the Government should consider. So far as the Committee felt they could go, they are at one with the Directors when they say "on public and economic grounds it would constitute a bad bargain to allow the Observatories to disappear."

In conclusion, the Directors earnestly beg you, if possible, to intervene again to prevent the closure of the Observatories till their value in research proper and in forecasting has been adequately considered. This did not come under the direct consideration of the Committee, and the Directors venture to suggest that it might best be settled by a reference to Sir William Huggins, President of the Royal Society, London; Lord Kelvin, President of the Royal Society of Edinburgh; and Lord Rayleigh. The Directors hope that you will not think that they have taken too great a liberty in making this suggestion.

The Directors beg that you will not look on them as pleading for a Scottish Institution. The Observatories are only Scottish because Ben Nevis is situated in Scotland. The work of the Observatories is national. It belongs indeed to all nations, though it has clearly a special importance to our Island Nation, with its distant Colonies and Dependencies all over the world. Hitherto the Observatories have been managed by a Scottish Board, because they were to so large an extent established and maintained by the Scottish public. But the Directors have no desire that they should continue to be so managed. Their only desire is that they should not be abandoned, but should remain in operation under any approved direction.—We are, with great respect, your faithful and obedient servants,

John M'Laren, *President.*
Arthur Mitchell, *Vice-President.*
John Murray, *Convener.*
R. T. Omond, *Honorary Secretary.*
Alexander Buchan, *Meteorological Secretary.*

The Right Hon. A. J. Balfour, M.P.,
10 Downing Street, London.

The following reply was received from the Treasury:—

Treasury Chambers,
3rd September 1904.

My Lord,—With reference to your letter to the First Lord, of the 14th July, I am directed to inform you that the Lords Commissioners of His Majesty's Treasury have had under consideration the Report of the Committee appointed under the chairmanship of the Right Honourable Sir Herbert Maxwell, Bart., M.P., by Treasury minute of the 9th December 1902, "with instructions to inquire and report as to the administration by the Meteorological Council of the existing Parliamentary Grant, and as to whether any changes in its apportionment are desirable in the interests of meteorological science, and to make any further recommendations which may occur to them, with a view to increasing the utility of the Grant."

The Committee, as you are aware, expressed the opinion that every effort should be made to provide the sum of £350, which had hitherto been contributed by the Meteorological Council towards the maintenance of the Observatories at Fort William and Ben Nevis. They did not, of course, mean to imply that the total cost of maintenance amounted to £350 a year only; and my Lords regret that they cannot entertain any proposal which would involve placing the entire charge for the maintenance of the Observatories on public funds. They are, however, prepared to secure to the Observatories a continuance of the Grant which they have hitherto received from the Meteorological Council, provided that some public body in Scotland is willing to undertake the maintenance of the Observatories on their present footing.

After full consideration of all the circumstances, my Lords consider that the best course will be to place an Annual Grant of £350 at the disposal of the Scottish Meteorological Society, from October next, for so long as both the Observatories are maintained, in addition to the Grant in aid of £100 now made to the Society. (The Grant in respect of the six months October 1904 to March 1905 would be included in the estimate for 1905–1906, and could not be paid before the 31st March next.) It would be a further condition of the Grant that the Observatories should supply to the Meteorological Council, without further charge, such information as the latter may reasonably require.

My Lords trust that the Scottish Meteorological Society may see their way to accept this offer, which will place the Observatories in the same financial position as they were in before the announcement by the Meteorological Council of the withdrawal of their contribution.—I am, my Lord, your obedient servant,

VICTOR CAVENDISH.

THE PRESIDENT,
SCOTTISH METEOROLOGICAL SOCIETY.

The following acknowledgment was sent to the Treasury:—

SCOTTISH METEOROLOGICAL SOCIETY,
20th September 1904.

SIR,—With reference to your letter of the 3rd September (No. 15,116), in reply to that of the Office-bearers of this Society to Mr. Balfour about the Grant to the Ben Nevis Observatories, the letter will be laid before the Council of the Society at their first meeting, which, however, cannot be held till after the middle of October. Meantime your letter has been considered by the Secretaries and Treasurer, and they have felt themselves obliged to give notice to the observers that their engagements will terminate next month. It is necessary to stop the observations before the Council meet, because by that time the road to the summit may be blocked by snow, and the transport of the instruments from the High-level Observatory rendered impracticable. —I remain, Sir, your obedient servant,

R. T. OMOND,
Hon. Secretary.

VICTOR C. W. CAVENDISH, ESQ., M.P.,
THE TREASURY,
WHITEHALL, LONDON.

At the same time, instructions were sent to Mr. Rankin, the Superintendent of the Observatories, to stop the observations at both Observatories on the first of October, and thereafter to dismantle the Ben Nevis Observatory, removing the instruments and stores to the Fort William Observatory. Notice was given to the members of the staff that their engagements would terminate on the 31st October, except in the case of Mr. Rankin, who was asked to reside meantime at the Fort William Observatory. As the self-recording instruments at the Fort William Observatory are the property of the Meteorological Council, a letter was sent to the Secretary of that Council, informing him that the Fort William Observatory was to be closed, and inquiring what the Council intended to be done with the instruments.

The Observatory in Fort William is the property of the Directors, but is mortgaged for a large proportion of its value. The Observatory on Ben Nevis is held under a feu-charter, by the terms of which it reverts to the proprietor of the ground whenever it ceases to be used as an Observatory. In consideration of the fact that it was necessary to close the Observatory before the Directors met, owing to the approach of winter, the Honorary Secretary wrote, on the 27th September, to the agent of the proprietor, Mrs. Cameron Lucy, to ask if she would forbear exercising her right to take over the buildings till the Directors had time to consider the position of affairs, and Mrs. Lucy very courteously and cordially agreed to leave the Observatory buildings in possession of the Directors during the ensuing winter. There have been left in the building a few articles that are not likely to be damaged by cold and damp, but the fragile instruments, books, records, and household furnishings have been removed. The windows have been boarded up, and the building made as secure as possible from injury by the elements, or from casual visitors.

After full and careful consideration the Directors have declined the offer of the Treasury to give £350 a year towards the maintenance of the two Observatories, because they have no prospect of being able to provide the additional £600 a year necessary to meet the annual cost of maintaining the Observatories. The following reply was sent to the Treasury:—

SCOTTISH METEOROLOGICAL SOCIETY,
29th October 1904.

SIR,—Your letter of 3rd September, stating that the Meteorology Grant Committee had recommended that an Annual Grant of £350 be given towards the maintenance of the Ben Nevis and Fort William Observatories, and offering to provide this sum by an Annual Grant from the Treasury to the Scottish Meteorological Society on behalf of the Observatories, has been laid before the Directors, who instruct me to convey to you their thanks, and to say that they regret they are not in a position to accept the offer, because, as already stated to the Prime Minister,* they have no funds to meet the expenditure of £600 a year, which would be necessary to ensure the continuance of the Observatories, in addition to the sum of £350 to be provided by the Treasury.

I am directed also to inform you that the Observatories are now closed, and that the high-level buildings, and the road to them, will, in terms of the feu-charter, be handed over to Mrs. Cameron Lucy, the proprietor of the ground, and that the low-level buildings will be sold.—I remain, Sir, your obedient servant,

R. T. OMOND,
Hon. Secretary.

VICTOR C. W. CAVENDISH, ESQ., M.P.,
THE TREASURY,
WHITEHALL, LONDON.

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* 14th July 1904.

The Directors are taking steps for the immediate sale of the Fort William Observatory, and will hand over the Ben Nevis Observatory to the proprietor of the ground, as provided in the feu-charter.

The two Observatories were built, and the road to the summit made, at a total cost of about £6800; this sum was wholly provided by subscription. The cost of maintenance is about £1000 a year, made up on the average of the last few years as follows:—

Salaries of Superintendent, three Assistant Observers, and Cook	£290
Temporary Assistants	20
Board Allowance for Observers while in Fort William	95
Provisions and Stores	215
Carriage of Stores to Summit, including Upkeep of Road	140
Insurance, Taxes, Feu-duty, and Interest	49
Repairs, Photo-paper and Chemicals for Self-recording Instruments, and Lighting	93
Rent of Telegraph Wire	28
Postages, Travelling Expenses, and Sundries	67
Total	£997

Since the opening of the Fort William Observatory in 1890, this expenditure has been defrayed by—(1) Grants of £350 a year from the Meteorological Council, who administer the Parliamentary Grant of £15,300 per annum; (2) Small sums received by the Directors for information supplied to newspapers, sale of road permits, etc., averaging about £100 a year; (3) Subscriptions of from £500 to £600 a year from the public. Thus, for these fourteen years, more than half the annual expenditure has been met by voluntary subscriptions. Up to the year 1898, the subscriptions were received from many sources, and in sums ranging from £1875 to a few shillings; but during the four years subsequent to 1898, Mr. Mackay Bernard, of Dunsinane, gave £500 each year, which, along with a few small subscriptions, defrayed the larger half of the expenditure from 1898 to 1902.

In addition to this expenditure for the maintenance of the Observatories, the Directors have spent, during the last six years, over £1200 on the discussion of the observations, the money for which was wholly provided by subscription; and the Royal Societies of London and Edinburgh have each granted £500 towards the printing of the observations from 1888 onwards, the four years 1884 to 1887 having been previously published by the Royal Society of Edinburgh.

For more than twenty years, daily telegrams giving the morning and evening readings at Ben Nevis Observatory have been sent regularly to the *Scotsman* and *Glasgow Herald* for publication in their columns, and the *Times* and some other newspapers got similar messages for a time. Since the opening of the Fort William Observatory in 1890, similar data from that station have been included in these telegrams. It is gratifying to be able to state that the newspaper press are all but unanimous in advocating the continuance of these Observatories.

During last winter, the German Meteorological Office (*Deutsche Seewarte*) asked for daily telegrams to be incorporated in their daily weather forecasts; these have been sent since the beginning of April last. The sum charged to the newspapers left a small profit each year to the Observatory funds, but the actual cost of transmission was the only charge made to the *Deutsche Seewarte.* When notice was given that these telegrams would cease on the 1st October, Dr. Herz, the Director of the *Seewarte*, wrote to the Directors expressing regret, and stated: "The stoppage of the Observatory on the summit, so favourably situated, and of the low-level station, will indeed be found to be a heavy loss to meteorological investigation. In view of the great importance of these Observatories, we confidently entertain the hope that we have only to do with a temporary interruption . . . [and] express the hope that these telegrams, whose loss will be found to be so heavy, will again appear at no distant date."

Daily telegrams, similar to those sent to the *Deutsche Seewarte*, would have been sent to the Meteorological Council in London, had they expressed a wish to have them.

Such telegrams are necessarily brief, and contain only a few of the chief observations made each day; but throughout the whole period that the Observatories have been in operation, complete manuscript copies of all the hourly readings have been sent to the Scottish Meteorological Society in Edinburgh and to the Meteorological Council in London. These records have been discussed in their scientific aspect in the office of the Scottish Meteorological Society, so far as the limited funds at the disposal of the Directors enabled them, and the results have been published in the *Journal* of that Society, and in the papers appended to the volumes of observations published by the Royal Society of Edinburgh. But the Meteorological Council have not yet, so far as is known, begun to discuss these records; they have certainly not published anything deduced from them. This is much to be regretted, because the Meteorological Council is the only body which could have adequately examined these observations in respect to the utility, for forecasting purposes, of the new information supplied by the combined stations; they are the only body in this country which issues forecasts, and has a staff in their offices trained in the immediate utilisation of observations for forecasting. This examination could have been carried out independently of any transmission of information by telegraph from the Observatories to the Meteorological Council.

When the Ben Nevis Observatory was opened in 1883, the Directors offered to send daily telegrams to the Meteorological Council. The Council declined this offer mainly on the ground of the expense of transmission which would have had to be defrayed by the Council, but asked that occasional telegrams be sent to them. Some complaints arose at first from the fact that the publication of these occasional messages in the Council's Weather Reports and Forecasts sometimes forestalled the information regularly telegraphed to the newspapers, but the matter was arranged to the satisfaction of the Council in January 1885, and telegrams continued to be sent at intervals till May 1887. The Council then issued a report which stated that these telegrams had given them no assistance in forecasting. The Directors had never considered such occasional messages as likely to be of value; daily telegrams regularly sent are the only data that are of service in forecasting. Since 1887, the Meteorological Council have not asked for a single telegram either from Ben Nevis or Fort William.

The Directors of the Observatories have from time to time drawn attention to certain phases of the Ben Nevis observations which they considered were likely to be of use in forecasting, but they could do no more, the methods of using such observations could only be worked out by persons engaged in the practical work of forecasting, and conversant with all aspects of this essentially empirical art.

5.

SCOTTISH METEOROLOGICAL SOCIETY.

The Half-Yearly General Meeting of the Society was held on the 24th March 1904 in the Philosophical Institution, Queen Street, Edinburgh,—The Hon. JOHN ABERCROMBY in the Chair.

REPORT OF THE COUNCIL.

There has been no change in the number of the Society's Stations since the Meeting in July of last year.

The following Stations have been inspected by Dr. Buchan:—Dundee, Lednathie, Aberdeen, Tillypronie, Loanhead, Braemar, Crathes, Gordon Castle, Nairn, Inverness, Strathpeffer, Lairg, Dunrobin, Wick, Dunrossness, Stornoway, Glencarron, Fort Augustus, Fort William, Leith, and Glasgow; and by Mr. A. Watt—Ben Nevis, Stronvar, Dalkeith, Stobo, and Dumfries.

The Council desire to express their sense of the great loss they have sustained through the death of their distinguished President, the Duke of Richmond and Gordon, in September of last year. In the course of his long parliamentary career, the late Duke filled many important offices in the State, and was a member of more than one Cabinet. From 1874 to 1880, he held the position of Lord President of the Council and Minister of Education, and in 1885 he became Secretary for Scotland, which was his last Ministerial office. This is not the place to speak of his political services, but it may be said that, while attached to the Conservative party, the Duke of Richmond was a broad-minded statesman and a shrewd observer of the trend of public opinion, to which he was always willing to defer when clearly declared. It need hardly be added that the Duke was a good landlord, and took an active interest in the affairs of the counties in which his estates were situated. Without claiming to be a scientific man, he took that interest in the advancement of science which was to be expected from a man of his ability and wide information. As President of the Society he was ever ready to give advice and help when desired. It may be interesting to recall the fact that among the oldest continuous series of Meteorological Observations are those taken daily at Gordon Castle, from 1781 to 1827, by Mr. James Hoy, Private Secretary to the third and fourth Dukes of Richmond. An analysis of these observations, extending over a period of nearly half a century, by Dr. Buchan, is printed in the fifty-first part of the Society's *Journal*, and from the data there given it is evident that the Observations were most carefully made, and with the best instruments. The Meteorological Observations were again resumed in 1860. Thus Observations have been made at Gordon Castle for the long period of ninety years. The Society is much indebted to the late Duke for the continued interest which he took in its scientific work.

The Council recommend that the vacancy caused by the death of the Duke of Richmond be filled by the election of Lord M'Laren as President, and that Sir Arthur Mitchell be elected to succeed Lord M'Laren as Vice-President.

The three Members of Council who retire by rotation are Sir John Murray, Dr. J. B. Russell, and Mr. J. Y. Buchanan. The Council recommend the re-election of Sir John Murray and Mr. Buchanan, and the election of Professor J. G. Macgregor in place of Dr. Russell.

The Registrar-General for Scotland has been regularly supplied with the Monthly and Quarterly Reports from the Society's Office, and also direct from the Observers in the eight large towns of Scotland, with the Daily Observations of Temperature and Rainfall required for his Weekly Reports.

The Meteorological Council of London has also been supplied direct from the Society's Observers at Glencarron, Fort Augustus, Fort William, Braemar, Ochtertyre, Marchmont and Cally, with Daily Observations of Temperature and Rainfall, and, in some cases, the Hours of Sunshine, for their Weekly Weather Reports for the United Kingdom.

Statistics of the Temperature and Rainfall for last year have been sent, as formerly, to several Medical Officers of Health in various parts of Scotland for their Annual Reports.

Eleven of the Society's Stations are now equipped with Sunshine Recorders, and the Council would be glad if more Stations could be furnished with them, so as to obtain in many parts of Scotland definite quantitative measures of this important element of climate. An increase in the number of Rainfall Stations, especially in the north-western Highland districts, is also much to be desired.

The Council desire to thank Mr. Bartholomew for the large Map of Scotland presented by him to the Society. On this map all the Society's Stations, the Lighthouses which send Meteorological Observations, and the Rainfall Stations are indicated.

A movement has been started to obtain the exclusive use of the Royal Institution on the Mound for the accommodation of scientific societies, and a Committee, consisting of representatives of the Royal Society of Edinburgh, and of thirteen other Scottish scientific societies whose headquarters are in Edinburgh, has been formed to further this object. The Council sent delegates to represent this Society on the Committee, and now recommend the scheme to the Society for their cordial support. If the proposed scheme be carried into effect, it is hoped that most of the scientific societies in Edinburgh will be accommodated in the building.

The work of the Ben Nevis and Fort William Observatories has been carried on as hitherto. In December, Mr. Robert H. Macdougall, who had been for long a member of the Observatory staff, resigned, and Mr. W. L. A. Craig-Christie was appointed. During last summer, Messrs. W. G. Macconnachie, A. J. Ross, and J. H. Buchanan acted as volunteer Observers at the High Level Observatory. The Directors thank these gentlemen for the valuable services they thus rendered. The third volume of the Ben Nevis Observations is making satisfactory progress. In it will appear the constants of pressure, temperature, humidity, wind, etc., at the Ben Nevis Observatories, as computed from the observations made during the twenty years 1884 to 1903 inclusive.

Since July Dr. Buchan's time has been almost wholly taken up with the discussion of the inter-relations of the atmospheric pressure, temperature, and humidity at the two Observatories. Part I. of this discussion is now completed, and some of the results will be submitted to the Meeting to-day.

Some time ago the *Deutsche Seewarte* asked if daily telegrams from the Ben Nevis and Fort William Observatories could be sent to their office in Hamburg, to be used in connection with the daily weather forecasts issued by the *Deutsche Seewarte* for the German Empire. The Directors agreed to furnish the telegrams asked for, and to-day a letter has been received asking that "arrangements be made for their transmission to begin on 1st April," which will be done.

The Committee of Inquiry into the administration of the Annual Parliamentary Grant for Meteorology, appointed in the autumn of 1902, has not yet issued its Report. As the Society is aware, the Directors received contributions from gentlemen interested in the continuance of the Ben Nevis Observatories sufficient, along with the Annual Grants of £100 and £250 from the Meteorological Council of London, to carry on the two Observatories till the beginning of October of this year, when it was hoped that the Report of the Committee referred to would be issued, and the effects of its recommendations known. By that date these funds will be exhausted, and the Observatories must then be closed, unless a sum of at least £600 per annum be guaranteed, in addition to the continuance of the sums of £100 and £250, which have, up to this time, been given by the Meteorological Council out of the Parliamentary Grant. In view of the importance of High Level Stations in Meteorology, and their growing use in forecasting, the Directors are of opinion that the whole cost of the co-operating High and Low Level Observatories at Ben Nevis and Fort William should be borne by the State. If the cost be not so provided for, they see no other possible course but the closing and abandonment of both Observatories in October next. The *Deutsche Seewarte* can thus get the daily telegrams mentioned above for at least six months.

The Report was adopted.

Dr. BUCHAN read a Paper on "The Ben Nevis Observations in relation to Forecasting."

In commenting on this paper, Lord M'Laren congratulated Dr. Buchan on having furnished an answer, at all events provisionally, to those objectors to our High Level Observatories, that the observations had not been made available for weather forecasts. He could not help thinking that it was the business of the Meteorological Council and their staff, who were maintained by Government at a cost of £15,000 a year to perform the work, necessarily laborious and involving a great amount of detail, that was necessary for the purpose of determining whether High Level Observations could or could not be made available for the purposes of their business; but, as they had not done so, and had never made the slightest use of the Observations furnished to them, Dr. Buchan had in that paper shown how a comparison between the High and Low Level Observations might be made useful for that purpose. He might say for himself that he quite appreciated the great difficulties that attended the subject of weather forecasting under the variable conditions of climate that existed in the British Islands, and he could not say that he had any great confidence in the matter being reduced to a system, at all events under the method hitherto adopted of using only Sea Level Observations or observations reduced to sea level.

The Meteorological Council up to this time, although they published reports every year, had never informed the public in these reports in what way their weather forecasts were arrived at. In that respect the action of this Government scientific bureau was distinct from that of all other scientific bodies with which he was acquainted, because from the time of Bacon to the present day it had been recognised as an axiom by all physical observers that the first duty of a man of science to his profession was to publish not only the data of experiments or observations of which he made use, but also the methods and reasoning by which he arrived at his results. It had long been recognised amongst scientific observers that when you are investigating a problem, and the observations or experiments to which attention had been directed fail you, you must look about to see whether you can vary the conditions, in the hope of overcoming the difficulties of the case, and he should have thought that the Meteorological Council would have considered it worth while to see whether anything could be got out of a comparison of the meteorological data of high and low level stations. That was not an extravagant idea, because in Austria, France, Germany, Italy, and Switzerland, high level stations were maintained at Government expense. The Meteorological Bureaus of those countries attached very great importance to the comparison of high and low level readings in the prospect of solving the difficult question of the cycles of change in the weather.

From the Report from the Council of this Society they knew that the German Bureau desired to use the Ben Nevis Observatories along with their own, and it stood to reason that the wider the geographical limits within which these high level stations were placed, the more likely they were to get data upon which they could depend. He had reason to believe that the American and French meteorologists were just as anxious as the Germans were that our station should be maintained, although, as it happened, because we lay nearer to Germany, it was the German office that had sought to make use of these observations.

He especially wished to say that, apart from weather forecasting, it seemed to him that the maintaining of a periodical record of temperature and barometric pressure at a high level station was of the utmost importance for determining whether there were any secular changes in the weather in this part of the world. He did not mean to say that the answer to the question depended upon any particular Observatory, because, fortunately, there were other countries willing to do the work, but he did not see why Great Britain should be behind the other great nations in the world in keeping a record which must inevitably be very interesting from its bearing upon astronomical problems, and why, seeing a very ample sum was voted by Parliament, a portion of it should not be available for the promotion of that secular work.

Mr. WATT read a Paper on "Sunshine at Home and Abroad," and the Meeting concluded with a vote of thanks to the Chairman.

ABSTRACT OF THE ACCOUNTS OF THE SCOTTISH METEOROLOGICAL SOCIETY,

FROM 30TH JUNE 1903 TO 30TH JUNE 1904.

CHARGE.

I. **Balance** from last Account . . .		£373 17 2
II. **Income** during Year—		
Annual Subscriptions .	£254 11 6	
Life Members' Subscriptions .	62 10 0	
Donations	2 2 0	
Legacies	...	
Journals sold	0 11 0	
Advertisements in *Journal* .	5 7 6	
Sum received from Meteorological Council for Weather Reports	94 8 4	
Grant from Government .	100 0 0	
Interest received, *less* paid .	10 15 2	
		530 5 6
Note—		
Income	£530 5 6	
Expenditure	576 7 9	
Deficit for year . . .	£46 2 3	
Subtract from which Balance on last Account, as above .	373 17 2	
Making Balance at 30th June 1904	£327 14 11	
		£904 2 8

DISCHARGE.

I. **Expenditure** during Year—			
Salaries			£322 18 2
Travelling Expenses of Secretary visiting Stations			1 8 0
Printing, Stationery, Postages, and Incidents, including *Journal* . .			188 10 5
Advertising			...
Office Rent, Gas, Taxes, Insurance, and Cleaning . . .	£68 19 0		
Less proportion paid by Ben Nevis Observatory Fund . .	6 11 10		
			62 7 2
Furnishings and Instruments . .			1 4 0
			£576 7 9
II. **Balance** at close of this Account—			
Loan to Ben Nevis Observatory Fund .		£300 0 0	
Due by Union Bank of Scotland, Edinburgh, on Account Current .		33 6 8	
		£333 6 8	
Less Balance due to Treasurer		5 11 9	
			327 14 11
			£904 2 8

Edinburgh, 4*th July* 1904.—Examined and found correct.

P. C. ROBERTSON, C.A., *Auditor*.

ABSTRACT OF THE ACCOUNTS OF THE BEN NEVIS OBSERVATORY FUND,

FROM 30TH JUNE 1903 TO 30TH JUNE 1904.

CHARGE.

I. **Income** during Year—			
Subscriptions and Donations . . .			£152 2 0
Grants from Meteorological Council—			
For Low Level Observatory . . .		£250 0 0	
For High Level Observatory . . .		100 0 0	
			350 0 0
Road Permits sold			107 15 0
Telegrams			105 4 8
Price of Horse sold			17 13 3
			£732 14 11
II. **Balance** at close of this Account—			
Consisting of—			
Heritable Loan . . .		£700 0 0	
Loan from Scottish Meteorological Society		300 0 0	
Balance due to Superintendent . . .		5 0 7	
		£1005 0 7	
Less—			
Balance due by Bank of Scotland, Fort William, on Acc. Curt.	£9 12 7		
Balance due by Union Bank of Scotland Ltd., Edinburgh, on Acc. Current	23 15 7		
Balance due by Union Bank of Scotland Ltd., Edinburgh, on Deposit Receipt .	167 19 6		
Balance due by Treasurer .	5 13 9		
		207 1 5	
			797 19 2
			£1530 14 1

DISCHARGE.

I. **Balance** from last Account . . .		£77 18 1
II. **Expenditure** during Year—		
Provisions and Stores .	£184 8 9	
Salaries and Wages . .	764 14 3	
Telegrams (including Rent of Wire, £28) . .	120 9 4	
Horses' Keep, and Repairs to Harness . . .	77 1 9	
Photo Paper, Charts, etc.	23 18 6	
Furnishings and General Repairs	127 12 4	
Electric Light . . .	11 19 4	
Repairs to Instruments .	4 6 1	
Insurance	5 15 9	
Feu-duties . . .	19 16 4	
Income Tax . . .	2 2 7	
Interest paid, *less* received	16 5 5	
Travelling Expenses .	19 8 5	
Printing, Stationery, and Advertising . . .	17 9 7	
Office Rent, Postages, Telegrams, Audit Fee, etc.	16 19 6	
Outlays at Observatories—Parcels, Washings, Postages, etc. . . .	36 18 1	
New Cart bought, *less* Old Cart sold . .	4 5 0	
		1452 16 0
Note—		
Income	£732 14 11	
Expenditure . . .	1452 16 0	
Deficit for year . .	£720 1 1	
Deficit from last Account	77 18 1	
Net Deficit at 30th June 1904	£797 19 2	
		£1530 14 1

Edinburgh, 5*th October* 1904.—Examined and found correct.

P. C. ROBERTSON, C.A., *Auditor*.

6. (1) TABLE OF ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1902.

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Dunrossness, .	Shetland, .	4·48	2·07	4·62	2·50	2·04	2·39	1·85	2·22	1·84	2·68	1·91	5·33	33·93
Balfour Castle, .	Orkney, . .	2·45	1·10	2·00	1·00	1·70	1·30	2·15	1·60	2·38	2·68	1·72	4·10	24·18
Roeberry, . .	,, . .	2·93	1·16	2·59	1·61	1·88	1·57	2·32	2·43	2·13	2·33	1·65	2·83	25·43
Wick, . . .	Caithness, .	2·82	1·42	1·81	1·40	1·81	1·88	3·55	2·21	2·38	2·41	0·92	3·87	26·48
Watten, . .	,, . .	2·09	1·51	1·38	1·28	1·61	1·41	2·39	1·85	2·07	1·85	0·94	3·04	21·42
Bettyhill, . .	,, . .	1·80	2·84	3·47	0·74	1·59	1·84	3·16	1·60	2·31	3·91	0·60	2·87	26·73
Invershin, . .	Sutherland, .	2·18	0·39	3·87	1·92	2·79	2·71	2·80	1·75	2·37	1·12	1·62	4·54	27·51
Stornoway, . .	Ross, . .	5·41	3·90	5·22	2·59	3·00	2·11	2·64	2·50	2·72	6·47	3·82	5·92	46·30
Geanies Mains, .	,, . .	0·93	0·76	1·37	0·83	2·09	2·32	2·71	1·57	1·27	1·52	0·37	2·33	18·07
Swordale House, .	,, . .	2·50	0·60	2·20	1·10	2·00	2·60	2·00	1·30	1·30	1·30	1·10	4·50	22·50
Fearn, . . .	,, . .	1·17	0·85	1·22	0·73	2·42	1·74	2·90	1·15	1·81	1·28	0·47	1·95	17·69
Ardross Castle, .	,, . .	3·79	1·47	3·28	2·08	3·74	3·30	3·04	2·11	2·43	2·13	1·43	4·94	33·74
Strathconan, .	,, . .	5·83	1·70	7·73	2·05	3·81	1·96	2·38	2·58	3·13	3·72	1·95	5·08	41·82
Applecross, . .	,, . .	4·58	3·26	7·15	2·43	4·20	1·74	3·52	3·70	4·55	7·86	3·75	6·05	52·79
Loch Drome, .	,, . .	9·37	2·87	4·85	8·46	2·89	9·51	11·12	7·00	6·11	18·30	2·94	14·04	97·46
Braemore House,	,, . .	9·00	4·20	5·80	2·75	3·45	4·25	2·52	2·90	3·65	6·75	4·50	8·45	58·22
Foich Lodge, .	,, . .	3·20	5·50	6·00	1·20	3·40	1·60	2·90	3·40	4·10	5·50	2·10	5·05	43·95
Bendamph, . .	,, . .	10·05	2·69	11·30	3·50	6·35	2·90	3·43	3·93	6·23	7·58	4·44	9·82	72·22
Loch Maddy, .	Inverness, .	3·79	2·44	4·83	2·97	3·13	1·55	2·51	2·08	5·09	4·21	4·04	3·72	40·36
South Uist, . .	,, .	3·20	1·77	4·11	2·75	2·28	1·00	1·55	1·39	5·75	3·98	3·78	4·92	36·48
Strathpeffer, .	,, .	2·36	1·28	2·89	1·54	2·16	2·07	2·64	1·91	1·99	2·19	1·11	5·25	27·39
Kinlochmoidart, .	,, .	3·10	3·10	3·65	2·85	5·14	1·90	4·00	5·20	6·69	5·70	4·08	3·85	49·21
Drumnadrochit, .	,, .	2·58	1·13	2·71	1·45	3·68	2·26	1·82	2·47	1·65	2·49	0·75	5·28	28·27
Glenquoich, . .	,, .	15·26	2·14	12·79	5·17	8·18	2·05	4·91	5·95	8·15	14·93	6·01	16·95	102·49
Invergarry, . .	,, .	2·28	0·88	5·24	0·80	8·21	0·93	2·52	3·16	2·76	6·82	2·43	3·84	39·87
Glenfinnan, . .	,, .	10·75	2·24	11·83	5·48	6·50	1·45	7·22	7·06	9·09	9·85	6·64	12·20	90·31
Aviemore, . .	,, .	2·41	0·82	1·84	1·30	3·37	1·95	2·27	3·26	1·65	2·98	0·63	3·40	25·88
Killin, Loch Ness,	,, .	5·30	1·10	4·00	2·50	3·10	2·20	2·60	4·20	3·60	3·60	1·90	5·30	39·40
Garthbeg, ,,	,, .	4·47	1·01	3·54	1·90	3·73	2·87	2·19	3·01	2·53	4·17	1·05	9·85	39·87
Aberchalder, ,,	,, .	2·92	1·81	2·68	1·62	3·54	2·59	2·13	2·83	1·38	2·40	0·68	4·52	29·10
Foyers, ,,	,, .	3·67	0·74	3·30	1·79	2·80	2·06	1·51	1·14	1·18	2·57	0·66	4·72	25·64
Mucomir, . .	,, .	7·02	1·00	5·04	2·52	3·41	1·29	3·45	4·68	4·40	5·69	2·70	6·55	47·75
Delnies, . .	Nairn, . .	1·64	1·02	1·71	0·72	2·27	2·51	2·40	2·34	1·39	1·79	0·65	3·01	21·45
Achareidh, . .	,, . .	1·33	0·80	1·32	0·56	2·22	2·67	2·58	2·32	1·21	1·67	0·43	2·36	19·47
Budgate, . .	,, . .	1·60	1·23	1·92	1·08	2·35	3·55	3·51	3·31	1·69	1·94	0·75	3·91	26·84
Grantown, . .	Elgin, . .	1·92	0·79	3·34	1·27	4·47	3·42	4·85	3·37	1·44	2·60	0·39	4·12	31·98
Kinloss, . .	,, . .	1·29	0·82	2·10	0·78	1·55	2·26	3·31	3·04	1·17	1·97	0·53	2·86	21·68
Cullen House, .	Banff, . .	1·10	2·30	3·35	2·10	2·00	1·30	5·05	2·00	1·90	2·90	2·50	3·70	30·20
Elchies, . .	,, . .	1·27	1·12	2·04	1·00	4·34	2·93	3·70	3·76	1·92	2·74	0·69	3·85	29·36
Aberlour, . .	,, . .	1·27	1·03	2·39	1·38	4·80	2·54	3·92	3·77	1·95	2·61	1·16	4·71	31·53
Dufftown, . .	,, . .	2·01	1·09	2·77	1·87	5·26	3·32	5·20	3·87	2·22	3·04	1·69	4·68	37·02
Keith, . . .	,, . .	1·02	0·29	3·33	2·07	4·12	2·66	5·36	3·03	2·29	3·12	1·55	4·61	33·45
Coldstone Sc'lhouse,	Aberdeen, .	1·40	1·04	1·96	2·88	5·54	3·54	3·57	3·05	2·06	1·92	3·63	5·10	35·69
Kermuck, . .	,, .	1·96	1·48	1·66	2·50	3·05	1·43	4·45	2·10	1·30	2·30	...	...	...
Aberdeen, M.C., .	,, .	1·59	1·09	1·37	2·59	4·33	1·55	3·71	2·84	1·40	1·69	2·29	2·89	27·34
Cranford, . .	,, .	1·87	1·22	1·57	2·88	4·35	1·73	4·18	2·61	1·52	1·59	2·78	3·32	29·62
Johnston Lodge, .	Kincardine, .	1·11	1·99	1·02	3·30	2·76	1·80	3·42	3·84	1·38	1·52	4·79	4·83	31·76
Arbroath W'rw'ks—														
Tower, . .	Forfar, . .	0·43	0·76	0·68	1·03	1·47	1·48	1·96	1·55	0·85	0·81	1·07	0·82	12·91
Garden, . .	,, . .	0·70	1·26	0·91	1·30	2·12	1·96	2·78	1·86	1·26	1·11	2·18	2·36	20·30
The Burn, . .	,, . .	1·32	1·86	1·45	2·63	2·96	2·50	2·74	3·36	2·21	1·53	5·85	5·14	33·55
Brechin, . .	,, . .	0 54	1·88	1·14	2·71	2·46	2·20	2·80	3·31	1·76	1·44	5·03	4·70	29·97
Buddon Ness H'h L't	,, . .	1·23	1·20	1·06	1·76	2·34	1·48	2·69	2·07	1·19	1·13	2·20	2·07	20·42
Dundee Waterw'ks—														
Hillhead, . .	,, . .	0·92	1·85	1·12	2·33	2·62	1·62	3·09	3·10	1·71	1·57	3·80	2·96	26·69
Crombie, . .	,, . .	1·30	2·09	1·45	2·62	3·08	1·70	3·30	3·18	1·93	1·68	4·77	4·00	31·10
Craigton, . .	,, . .	1·08	1·73	1·15	2·28	2·78	1·53	3·07	3·16	1·65	1·54	3·45	3·03	26·45
Balnakeilly, .	,, . .	1·30	1·00	1·10	2·30	1·40	1·30	2·20	3·80	1·70	2·10	4·70	3·70	26·60
Creich Hill, .	,, . .	2·00	1·00	1·50	2·00	1·30	2·90	3·00	4·30	2·90	2·40	4·80	3·50	31·60
Lintrathen, .	,, . .	2·20	1·40	1·10	2·30	2·00	1·90	2·80	4·00	2·20	2·30	5·30	5·50	33·00
Glendamff, .	,, . .	...	6·50	1·70	3·20	2·00	3·00	2·80	3·80	2·90	2·10	...	12·00	...
Barney, . .	,, . .	4·60	1·60	2·20	3·00	1·90	3·00	2·60	3·60	2·90	2·10	11·00	3·50	42·00
Longdrum, .	,, . .	4·20	1·80	2·10	3·30	2·20	1·90	3·70	3·40	3·00	1·80	4·20	6·60	38·20
Glendye, . .	,, . .	4·80	2·40	1·80	3·20	1·90	1·90	4·20	3·30	2·90	1·80	6·00	8·00	42·20
Broughty Ferry, .	,, . .	0·96	1·17	1·01	1·79	2·08	1·45	2·80	2·41	1·15	1·13	2·76	2·51	21·22
Blair-Atholl, .	Perth, . .	2·07	0·91	1·66	2·44	1·54	1·30	1·75	2·24	2·60	1·48	5·05	4·41	27·45
Rannoch Station,	,, . .	...	...	...	2·78	3·16	1·68	3·07	3·02	3·49	4·25	3·47	7·82	...
Coupar-Angus, .	,, . .	1·12	1·07	0·95	1·52	1·36	2·06	2·33	3·48	1·83	1·13	4·65	4·60	26·10
Glasgow Wat'w'ks—														
Glengyle, . .	,, . .	6·40	2·30	8·30	4·20	4·20	1·90	4·60	4·10	6·20	7·10	6·10	10·50	65·90
Hill above Tunnel at Loch Katrine,	,, . .	8·00	2·70	7·00	4·20	3·60	2·30	3·70	3·30	6·30	7·20	9·00	10·00	67·30
Ledard, . .	,, . .	8·50	5·60	3·45	3·45	3·15	2·60	4·80	5·40	6·25	5·30	3·05	6·80	58·35
Loch Dhu, .	,, . .	7·40	3·40	5·90	3·70	3·70	2·10	4·00	4·00	6·60	5·30	9·80	11·00	66·90
Duchray Head, .	,, . .	9 90	3·10	7·40	6·10	6·60	3·50	6·50	7·20	7·50	10·00	11·00	10·70	89·50
Bet. Glen Finlas and Ben Ledi,	,, . .	3·00	5·40	2·80	2·00	1·80	3·20	3·40	3·60	4·80	2·50	5·70	4·60	42·80
Brig o' Turk, .	,, . .	4·70	2·50	4·45	2·40	2·45	2·15	2·95	3·95	4·90	4·40	6·65	8·20	49·70
Loch Drunkie, .	,, . .	4·50	2·10	4·50	1·90	2·20	2·65	3·50	3·40	4·80	4·80	5·20	8·50	47·55

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1902—*continued.*

Stations.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Glasgow Wat'w'ks—		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Loch Vennachar,	Perth, . .	3·50	2·20	3·25	1·70	1·90	2·70	3·40	3·30	3·90	3·70	5·60	6·35	41·50
Aberfoyle, . .	,, . .	4·40	2·25	3·90	1·90	2·15	2·10	3·25	3·20	4·30	3·50	5·90	7·55	44·40
Blaircreach, . .	,, . .	8·19	0·84	8·14	3·14	4·18	2·33	3·93	4·06	6·24	6·11	8·60	...	...
Ardvorlich, . .	,, . .	5·85	2·89	4·62	5·33	2·46	2·39	3·35	2·60	5·61	4·64	10·19	13·21	63·14
St. Fillans, . .	,, . .	4·14	1·84	2·09	3·89	1·76	2·65	2·87	2·53	5·04	4·41	7·58	10·10	48·90
Leny, . . .	,, . .	4·11	2·00	3·80	1·20	1·60	2·00	2·70	2·50	3·30	3·60	5·40	6·40	38·61
The Gart, . .	,, . .	6·08	0·51	5·36	1·90	2·39	2·35	2·71	3·89	2·25	2·68	8·50	5·71	44·28
Lanrick Castle, .	,, . .	3·60	1·50	0·75	1·50	2·15	2·20	3·20	3·55	3·10	2·25	2·80	6·00	32·60
Net'r Cambushinnie,	,, . .	3·94	1·44	2·52	1·97	2·08	2·82	3·22	4·65	1·26	2·62	2·99	6·04	35·55
Lynns, . . .	,, . .	2·81	2·45	1·83	1·37	1·80	2·28	3·50	3·92	2·64	2·28	2·52	5·04	32·44
Kippenross, . .	,, . .	3·60	1·80	0·30	1·40	0·20	2·20	2·10	3·20	2·80	3·10	3·00	4·80	28·50
Kippendavie, .	,, . .	2·89	1·71	1·91	1·95	1·92	2·62	4·20	4·90	2·61	2·85	3·15	4·90	35·61
Glensherup, . .	,, . .	5·41	3·52	4·00	3·00	1·77	1·68	2·40	4·00	2·47	4·40	4·40	6·00	43·05
Doune, Gartincaber,	,, . .	3·05	1·68	2·05	0·95	2·21	2·38	3·17	4·03	3·51	2·19	3·26	5·28	33·76
Abernethy, . .	,, . .	0·94	1·38	1·28	1·63	1·51	1·67	2·63	2·19	1·69	1·85	2·46	5·99	25·22
Mountquhanie, .	Fife, . .	1·20	1·10	0·80	1·30	1·70	2·20	2·40	2·00	1·20	1·40	2·90	3·80	22·00
Tayport Low Light.,	,, . .	1·06	1·21	0·83	1·74	1·84	1·58	2·65	3·14	1·22	1·06	3·30	2·49	22·12
Balcarres, . .	,, . .	1·04	1·60	1·48	1·48	2·70	2·22	3·87	2·02	1·52	1·89	1·81	3·58	25·21
Lothrie Reservoir,	,, . .	1·61	1·21	1·45	1·73	2·12	2·35	3·47	2·33	1·95	1·79	2·80	3·94	26·75
Craigluscar, . .	,, . .	3·15	1·20	2·00	1·60	1·85	2·80	3·10	2·80	1·07	1·05	1·04	3·01	24·67
Keavil, . . .	,, . .	1·58	1·10	1·58	0·80	1·56	1·98	2·52	2·05	1·23	1·06	0·80	2·56	18·82
Outh, . . .	,, . .	1·69	1·45	1·08	1·51	1·33	2·77	2·95	1·58	2·55	1·07	2·47	2·77	23·17
Chatto Res., Cupar,	,, . .	0·78	1·07	1·24	1·57	1·97	2·17	3·31	2·45	1·47	1·65	2·43	3·33	23·44
Loch Leven Sluices,	Kinross, .	2·03	1·24	1·55	1·51	2·18	1·79	2·89	3·73	1·94	1·90	2·31	4·48	27·55
Blairingone, . .	,, .	2·84	1·79	1·94	1·77	1·99	2·06	3·48	2·81	2·60	1·82	2·51	3·53	29·14
Gelly Bank, .	,, .	2·40	1·41	1·61	1·75	1·74	1·62	3·26	3·01	1·94	1·66	2·29	3·73	26·42
Cleish Castle, .	,, .	0·90	0·60	1·10	2·35	2·65	1·80	1·86	3·40	2·90	3·04	2·50	4·60	27·20
Kerse, Gauge No. I.,	Stirling, .	2·60	1·40	2·10	0·70	1·70	1·80	2·70	2·90	1·80	1·30	1·50	3·60	24·10
,, ,, No. II.,	,, .	2·59	1·36	2·10	0·68	1·79	1·92	2·68	2·00	1·86	1·46	1·60	3·47	23·46
Polmaise, . .	,, .	[	8·10	]	0·60	1·50	1·87	2·50	2·20	2·10	2·10	2·68	5·20	28·85
Stirling Waterw'rks,	,, .	3·86	1·93	2·43	1·70	2·24	2·28	3·49	3·27	3·40	2·82	4·21	6·14	37·72
Mugdock Reservoir,	,, .	3·60	1·80	3·10	0·85	2·05	1·90	3·40	2·90	2·70	1·95	2·60	4·75	31·60
Currymire, . .	,, .	4·90	1·68	3·23	0·85	1·79	2·44	3·45	2·74	2·02	2·50	2·06	4·27	32·93
Glenborrodale, .	Argyll, . .	7·31	2·51	7·69	4·01	3·40	1·50	3·56	5·18	7·82	6·36	5·38	7·68	62·40
Quinish, . .	,, . .	5·71	2·57	5·78	3·33	2·58	1·36	3·51	4·54	6·72	4·79	5·70	6·02	52·61
Eriska, . . .	,, . .	6·80	1·83	6·13	2·39	3·26	2·13	3·84	4·70	5·51	6·17	4·85	6·84	54·45
Laudale, . .	,, . .	8·16	2·57	9·20	5·69	5·72	1·82	3·54	6·77	7·41	8·43	6·81	11·52	77·64
Stonefield, . .	,, . .	7·74	2·38	7·02	3·41	4·26	1·76	5·59	3·68	8·65	4·68	7·56	8·13	64·86
Ardsheal, Ballachulish, . . .	,, . .	9·63	2·10	8·30	2·99	4·13	1·87	3·98	5·57	5·93	7·69	5·42	8·81	66·42
Drimnin, . .	,, . .	6·39	2·31	5·59	3·97	4·07	1·62	3·24	4·27	7·30	5·44	5·57	6·98	56·75
Inveraray Castle,	,, . .	8·16	1·55	7·87	3·13	4·32	1·78	5·03	4·34	6·05	6·53	5·58	9·94	64·28
,, Newton,	,, . .	7·10	1·23	6·15	2·79	3·76	1·89	4·87	4·69	5·13	5·69	5·77	7·51	56·58
Ardrishaig Canal Of.,	,, . .	7·05	2·80	6·46	2·79	4·16	1·65	5·22	3·28	7·06	5·04	6·19	7·42	59·12
Campbeltown, The Rectory,	,, . .	4·03	2·76	3·84	2·40	4·39	2·50	3·28	2·22	6·61	3·01	7·36	5·13	47·53
,, Witchburn,	,, . .	4·03	2·39	3·69	2·03	4·24	2·46	3·14	2·36	4·75	2·41	6·17	4·87	42·54
Dunoon, . .	,, . .	6·13	2·15	5·77	1·77	2·99	1·66	4·74	4·65	5·43	3·59	5·24	5·90	50·02
Tighnabruaich, .	,, . .	5·57	2·18	4·97	1·95	4·03	1·54	4·75	3·88	6·81	4·24	5·85	6·45	52·22
Ardbeg, . .	,, . .	3·12	0·70	4·18	1·77	3·71	1·60	4·76	3·13	8·64	3·18	3·88	4·66	43·33
Islay, Eallabus, .	,, . .	3·70	2·30	3·62	2·95	3·06	1·99	4·37	2·34	7·18	2·18	5·39	4·57	43·65
Waulk Glen Res.,	Renfrew, .	5·10	1·55	3·65	0·85	2·50	1·50	2·80	2·60	3·40	3·10	2·80	5·35	35·20
Ryat Linn Reservoir,	,, .	5·25	1·60	3·75	0·90	2·60	1·55	2·90	2·70	3·55	3·25	2·90	5·50	36·45
Middleton, . .	,, .	6·85	2·45	4·80	1·40	3·95	1·70	3·80	3·15	4·05	4·05	3·45	6·35	46·00
Black Loch, . .	,, .	6·70	0·90	4·60	1·10	2·80	1·55	4·50	3·55	4·10	3·25	2·90	4·50	40·45
Castle Semple, .	,, .	4·86	1·83	3·42	1·09	2·21	1·36	3·71	2·55	3·69	2·66	3·72	5·64	36·74
Greenock Wat'w'ks.—														
Prospect Hill, .	,, .	6·26	1·85	5·30	2·61	2·72	1·83	4·03	3·89	4·98	4·41	5·83	7·62	51·33
New Yetts Dam,	,, .	6·50	2·55	5·76	2·91	3·34	2·04	5·27	4·61	5·98	4·09	7·12	8·83	59·00
Hole Glen, .	,, .	6·90	1·98	5·01	2·74	2·81	1·90	4·75	3·95	5·30	3·73	6·19	8·21	53·47
Spango Burn, .	,, .	6·60	1·80	5·60	2·40	2·70	1·60	5·60	4·70	5·60	4·50	6·10	8·10	55·30
Shielhill, . .	,, .	7·30	2·00	5·60	2·30	3·30	2·20	5·70	5·20	6·10	4·50	7·20	8·60	60·00
Comp'nsat'n Res.,	,, .	6·06	2·14	5·10	2·68	3·39	1·84	5·16	4·72	5·35	3·90	5·92	7·11	53·37
Loch Thom, .	,, .	6·83	2·10	5·58	3·06	3·25	1·90	5·09	4·52	5·29	3·92	5·87	6·68	54·09
Kelly Dam, .	,, .	6·80	2·10	5·30	2·40	3·70	2·00	5·50	4·90	5·40	3·50	6·00	6·90	54·50
Knockencorsan,	,, .	7·50	1·60	4·80	2·70	2·70	2·10	7·10	5·50	5·40	4·00	5·00	6·60	55·00
Largs Road, .	,, .	6·79	1·56	4·06	3·02	3·00	1·30	6·00	4·12	4·24	2·80	6·28	5·75	48·92
Creuch Hill, .	,, .	6·50	1·30	5·00	2·90	2·70	2·00	6·60	4·60	5·60	4·00	7·10	6·00	54·30
Duchall Moor, .	,, .	7·90	2·30	6·50	3·60	3·60	2·00	7·10	5·20	6·40	5·50	9·00	9·10	68·20
Green Water, .	,, .	7·10	2·40	6·30	3·40	3·60	1·90	5·40	4·60	5·60	4·40	7·60	8·00	60·30
Gryfe Reservoir,	,, .	6·60	2·10	5·10	3·10	2·90	2·10	5·00	3·80	5·20	4·00	7·10	7·50	54·50
Mansfield, .	,, .	6·31	2·08	5·12	2·89	2·96	2·06	4·47	3·51	5·40	3·76	6·99	7·36	52·91
Darndaff Moor, .	,, .	6·70	2·20	5·50	2·80	3·00	2·10	4·60	3·60	5·30	4·20	6·70	7·80	54·00
Paisley W'terw'ks—														
Stanely, . .	,, .	4·12	1·65	2·46	0·81	1 80	1·70	2·22	2·34	3·02	2·76	2·88	4·54	30·30
Back Thornleymuir, . .	,, .	6·31	2·18	4·11	1·32	2·63	1·93	3·93	2·90	4·37	4·70	3·72	5·98	44·08
Muirhead, . .	,, .	6·98	1·52	4·96	1·27	2·64	1 70	4·59	3 77	3·91	4·22	5·02	5·24	45·82
Springside, .	,, .	7·28	1·55	5·41	1·30	2·79	1·73	4·83	3·80	4·17	4·25	5·04	5·79	47·94
Auchendores Res.,	,, .	4·28	1·90	3·58	1·58	2·12	1·74	3·10	3·20	4·48	3·41	4·98	6·61	40·78

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1902—*continued*

Stations.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Douglieshill Res., .	Renfrew, .	3·86	1·84	4·83	2·28	2·40	1·61	3·46	2·81	4·77	3·16	5·45	6·89	43·36
Loch Finlas, .	Ayr, . .	4·59	1·30	4·36	4·11	2·77	1·44	2·98	2·79	4·58	3·40	5·26	6·87	44·45
Dalry, . . .	,, . .	5·30	3·75	3·90	3·28	3·28	1·84	3·18	3·02	4·85	3·82	6·58	8·08	50·78
Saltcoats, . .	,, . .	3·50	1·25	2·55	1·05	2·05	1·00	2·60	2·80	4·05	1·10	3·15	3·90	29·00
North Craig, .	,, . .	5·50	1·20	4·00	1·00	2·00	2·20	4·70	4·00	4·50	3·50	1·70	4·00	38·30
Ayr, Doonside, .	,, . .	4·89	1·19	3·59	1·31	2·62	1·49	2·68	2·82	4·07	2·67	2·49	3·20	33·02
,, Doonholm, .	,, . .	5·21	1·09	3·73	1·04	2·58	1·48	2·60	3·10	3·89	2·56	2·52	3·25	33·05
Colmonell, . .	,, . .	5·30	1·82	3·55	1·94	3·00	1·65	3·06	2·91	4·50	2·21	4·90	6·60	41·44
Glasg., Queen's Prk.,	Lanark, . .	3·47	1·65	2·39	0·86	2·15	1·99	2·63	2·72	3·56	2·36	2·20	4·84	30·82
Hamilton W'terw'ks	,, . .	3·15	1·05	2·60	0·75	2·30	1·70	2·45	1·65	3·00	1·95	1·50	4·60	26·70
Bothwell Castle, .	,, . .	2·55	0·87	1·80	0·65	1·49	1·70	2·82	1·47	2·91	1·38	1·70	3·22	22·56
Mauldslie Castle, .	,, . .	2·15	0·92	2·25	0·94	1·80	2·08	2·48	2·73	2·34	1·82	1·24	4·10	24·80
Dalzell House, .	,, . .	1·57	0·47	2·47	0·52	1·54	1·80	2·53	2·04	3·34	2·25	1·40	3·59	23·52
Cambus-Wallace, .	,, . .	2·12	0·92	1·38	1·84	1·50	1·15	2·88	1·53	2·25	1·15	1·35	3·40	20·97
Lanark Rhyber L'ge,	,, . .	1·70	0·20	...	1·40	1·50	1·00	2·00	1·80	1·40	2·80	1·00	3·60	...
Cleghorn, . .	,, . .	2·50	1·17	2·82	1·34	2·34	2·31	2·93	1·94	2·37	2·09	1·86	3·79	26·96
Airdrie, Hillend Res.,	,, . .	4·08	1·01	2·54	0·78	1·56	2·22	3·65	1·87	2·28	1·89	1·58	3·48	26·87
Polkemmet, . .	Linlithgow, .	3·45	1·31	2·72	1·09	2·25	2·07	4·11	1·91	2·56	1·96	1·44	4·07	28·94
Boghead House, .	,, .	1·91	1·80	1·54	0·98	1·97	1·86	3·96	2·15	2·60	2·20	1·39	3·35	25·71
Uphall, . .	,, .	2·35	0·90	1·62	1·19	2·37	2·62	3·23	1·52	1·41	1·46	1·07	3·10	22·84
Carriber Reservoir,	,, .	2·29	1·23	1·68	0·97	1·89	2·55	3·83	1·90	1·50	1·55	1·24	3·28	23·91
Bo'ness, Grange, .	,, .	1·41	1·11	1·52	0·79	1·75	2·24	2·85	2·42	1·25	1·03	0·90	2·81	20·08
Addiewell, . .	Edinburgh, .	2·07	1·01	1·98	1·41	1·58	2·19	3·08	1·08	2·94	1·70	1·04	2·90	22·88
Edin. Waterworks—														
Portmore, . .	,, .	1·52	0·90	1·78	1·90	3·05	3·28	2·62	1·30	1·92	1·98	2·10	4·25	26·55
Bowbate, . .	,, .	2·85	1·40	2·75	2·60	3·35	3·00	2·99	5·08	2·68	2·55	2·85	5·25	37·30
Gladhouse, .	,, .	1·30	1·04	1·92	1·75	3·04	3·62	2·48	1·43	2·17	2·09	2·22	3·62	26·68
Rosebery, . .	,, .	1·36	1·05	2·09	1·89	3·41	3·73	2·00	1·11	1·90	1·84	1·97	3·07	25·42
Glencorse, . .	,, .	1·40	1·06	2·13	1·67	3·59	3·94	2·76	1·72	2·47	2·67	1·07	3·67	28·15
Loganlea, . .	,, .	1·46	0·90	2·19	1·81	3·22	3·11	2·62	1·53	2·37	2·56	0·97	3·29	26·03
Harehill, . .	,, .	1·95	1·00	2·25	1·85	3·10	3·20	3·20	1·75	2·45	2·65	1·20	3·50	28·10
Harbour Hill, .	,, .	2·22	1·30	1·98	1·90	6·00	2·75	3·50	2·00	2·90	3·68	1·82	4·20	33·75
Clubbiedean, .	,, .	1·18	1·10	0·98	1·63	4·10	2·26	3·20	1·70	2·10	1·78	0·90	2·30	23·23
Harlaw, . .	,, .	1·41	1·18	1·25	1·79	3·60	2·06	2·87	1·58	1·98	1·88	0·97	2·79	23·26
Harperrig, .	,, .	2·60	1·50	3·10	2·20	2·70	2·40	3·70	1·50	2·80	2·50	1·70	4·60	31·30
Crosswood, .	,, .	2·48	1·21	2·60	1·90	2·28	1·81	3·95	2·02	2·46	2·17	1·62	3·73	28·18
Alnwick Hill, .	,, .	1·02	0·50	1·20	1·21	2·10	3·29	2·49	1·32	1·42	1·61	0·66	2·25	19·07
Swanston, . .	,, .	0·60	0·75	0·90	1·15	3·05	2·65	2·45	1·40	1·52	1·72	1·08	1·80	19·07
Edgelaw, . .	,, .	1·34	1·06	2·05	1·72	3·30	3·70	1·98	1·12	1·89	1·84	1·95	3·11	25·06
Davidsons Mains, Broomfield, .	,, .	1·40	1·01	0·98	1·36	2·37	2·54	3·02	1·32	1·10	1·24	0·81	1·76	18·91
Leith, M.C., . .	,, .	1·09	0·90	0·72	1·17	2·09	2·41	2·65	1·72	0·72	0·90	0·51	1·54	16·42
Edinburgh—														
Charlotte Square,	,, .	1·15	0·95	1·02	1·50	2·89	2·45	2·50	1·60	1·54	1·30	0·50	2·05	19·45
Streatham House,	,, .	1·20	0·90	0·80	1·40	3·20	3·00	3·00	1·60	1·50	1·30	0·80	2·20	20·90
Stow, Burnhouse,	,, .	1·40	1·14	1·81	1·68	4·40	1·90	2·02	1·05	1·87	2·00	2·56	5·19	26·52
Aberlady, . .	Haddington, .	0·90	0·95	0·89	1·08	2·36	2·33	2·45	1·46	1·41	1·14	0·54	1·69	17·20
Whittinghame, .	,, .	1·28	0·72	1·50	1·54	2·55	5·88	2·51	1·53	1·32	2·06	1·85	3·56	26·30
No. Berwick Res.,	,, .	1·04	1·01	1·89	1·05	2·86	2·95	2·18	2·67	1·16	1·28	0·67	2·40	20·66
Donolly Reservoir,	,, .	1·35	0·74	1·78	1·80	4·24	3·52	2·56	1·43	1·67	2·56	2·50	4·21	28·36
Hangingshaw, .	Selkirk, . .	1·50	2·38	1·48	1·83	3·38	1·57	3·61	1·74	1·97	2·28	3·17	3·20	28·06
The Glen, . .	Peebles, .	3·25	2·20	1·40	1·55	1·33	1·60	1·40	1·40	3·20	2·40	3·50	6·03	29·26
North Esk Res., .	,, .	2·70	1·35	3·10	1·90	3·10	2·15	2·80	1·50	2·25	2·50	1·05	3·45	27·85
Swinton Bank, .	,, .	1·77	1·05	1·66	2·24	2·92	1·69	2·92	1·28	2·07	1·40	2·36	3·98	25·34
The Hirsel, . .	Berwick, .	1·13	1·24	1·01	1·71	3·28	1·97	1·85	1·49	0·38	1·74	0·99	2·49	19·28
Elliston, . .	Roxburgh, .	1·25	1·55	0·96	1·77	2·67	2·19	2·37	2·89	1·51	1·72	1·50	3·29	23·67
Wooplaw, . .	,, .	1·29	0·98	0·98	1·68	3·48	2·03	2·56	1·21	1·72	1·90	2·77	4·29	24·84
Lilliesleaf, . .	,, .	1·62	1·81	1·31	1·86	3·19	1·96	2·85	2·69	2·00	2·12	1·76	4·55	27·72
Springwood Park,	,, .	1·08	0·62	0·36	1·69	2·15	1·55	1·21	1·69	0·48	1·07	0·41	2·10	14·41
Jedburgh, Ancrum Bridge, . .	,, .	1·19	1·50	0·74	1·57	2·76	2·19	2·04	1·68	1·02	2·00	1·08	3·00	20·72
Branxholm, . .	,, .	1·88	1·27	1·67	2·05	2·12	1·69	3·29	2·51	1·57	2·12	2·05	4·12	26·34
Ewes, . . .	Dumfries, .	4·60	2·00	2·50	2·00	1·35	1·30	3·60	4·50	1·30	3·40	3·00	7·30	36·85
Drumpark, . .	,, .	3·42	3·66	4·47	2·15	2·42	1·83	2·46	3·42	3·04	3·66	4·42	5·70	40·65
Langholm, Burnfoot,	,, .	4·45	2·08	3·18	2·75	2·38	1·61	3·73	4·56	2·72	3·98	3·67	7·35	42·36
,, Drove Road,	,, .	3·84	2·18	3·08	2·57	2·39	1·15	3·81	4·42	2·98	3·98	3·45	6·64	40·44
Byreburnfoot, .	,, .	2·88	1·62	2·38	1·62	1·75	1·12	3·38	3·50	1·62	3·50	2·25	5·00	30·62
Ericstane, . .	,, .	3·58	2·28	3·07	2·86	2·22	1·31	2·20	2·74	3·22	3·52	3·80	7·11	37·86
Dalawoodie, . .	,, .	2·57	2·72	2·61	2·31	2·44	2·00	3·20	3·34	2·36	2·85	3·96	4·60	34·96
Maxwelton House,	,, .	3·20	2·93	3·14	2·91	2·55	2·16	2·40	2·88	3·35	2·96	4·79	6·43	39·70
Glencrosh, . .	,, .	4·35	3·61	3·92	2·93	3·10	1·87	2·86	2·88	3·76	3·28	5·42	6·70	44·68
Dalbeattie, Richorn,	Kirkcudbright,	2·40	3·50	2·12	1·79	2·22	1·88	2·83	2·90	2·85	4·15	3·94	4·96	35·54
,, Kirkennan,	,,	...	...	...	...	...	...	3·45	2·83	2·89	4·61	5·58	5·60	...
Holm of Dalquhairn,	,,	3·42	4·00	4·50	2·20	2·42	2·00	2·46	3·50	3·10	3·70	4·50	6·00	41·80
Auchencairn, .	,,	3·23	2·26	2·94	1·66	2·52	1·85	3·67	3·43	2·97	3·75	4·57	4·69	37·54
Ardwell House, .	Wigtown, .	2·29	2·66	2·05	1·82	2·91	2·37	3·06	4·15	4·22	1·98	5·15	3·47	36·08
Galloway House, .	,, .	2·71	3·85	2·71	1·56	2·22	1·71	3·24	2·40	4·27	2·11	5·60	3·18	35·51
Douglas, . .	Isle of Man, .	2·41	3·66	1·93	1·93	3·40	1·51	3·60	3·28	3·44	4·20	4·22	4·41	37·99

(2) TABLE OF ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1903.

Stations.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Dunrossness,	Shetland,	5·22	5·67	4·96	3·02	1·17	2·35	2·25	2·64	2·99	4·55	4·39	2·25	41·46
Ollaberry,	,,	4·05	6·10	6·36	3·49	2·24	1·66	2·89	3·79	4·45	6·27	2·68	4·30	48·28
Balfour Castle,	Orkney,	3·50	5·00	2·70	3·10	1·25	0·92	2·80	5·10	2·65	5·55	4·51	2·85	39·93
Roeberry,	,,	2·87	3·14	2·03	2·45	...	...	...	...	...	...	...	...	...
Wick,	Caithness,	2·90	2·68	1·37	2·96	1·60	1·30	4·76	4·34	2·71	4·39	5·04	1·85	35 90
Watten,	,,	2·81	2·21	1·37	2·32	1·63	0·91	3·73	5·57	2·72	4·72	4·93	1·55	34·47
Bettyhill,	,,	4·61	4·45	2·23	2·88	1·48	1·79	3·35	5·75	2·03	4·96	5·88	1·22	40·63
Invershin,	Sutherland,	3·77	3·94	2·69	4·07	1·80	1·45	2·77	5·96	2·30	5·76	5·65	1·53	41·69
Stornoway,	Ross,	6·23	7·12	8·06	3·47	2·25	1·78	4·24	8·53	3·03	8·41	5·82	3·11	62·05
Swordale House,	,,	4·90	4·00	3·10	2·70	1·90	2·40	4·80	4·10	1·80	6·80	3·80	1·30	41·60
Fearn,	,,	2·59	1·97	2·52	1·98	1·24	1·51	3·21	5·34	1·32	5·00	2·95	1·21	30·84
Ardross Castle,	,,	6·53	5·66	4·39	3·52	2·75	1·41	6·04	5·79	2·94	7·95	5·27	1·95	54·20
Strathconan,	,,	8·72	7·05	7·47	1·47	2·20	1·19	5·17	6·76	2·78	9·96	5·85	1·09	59·71
Applecross,	,,	7·45	10·23	7·90	3·00	2·73	2·22	3·70	7·31	6·26	10·85	6·30	3·92	71·37
Loch Drome,	,,	7·33	8·11	7·12	4·87	6·91	2·32	8·10	8·60	14·79	16·46	11·05	7·27	109·93
Braemore House,	,,	6·85	5·90	7·50	6·20	2·05	0·50	8·00	9·00	3·70	9·85	6·75	2·39	68·69
Foich Lodge,	,,	4·50	4·30	4·90	4·15	2·40	4·31	4·50	6·10	3·60	3·40	5·10	4·50	51·76
Bendamph,	,,	14·57	16·62	17·31	4·37	3·69	2·86	7·47	10·71	5·93	12·40	7·36	4·97	108·26
Loch Maddy,	Inverness,	5·12	4·37	6·40	1·92	1·38	2·20	3·67	7·34	1·80	8·93	5·52	3·27	51·92
S. Uist, Askernish,	,,	5·41	5·01	5·96	1·62	1·48	1·54	3·06	5·38	2·19	8·77	5·60	4·41	50·43
Strathpeffer,	,,	4·87	5·11	4·48	2·16	1·63	1·91	4·12	3·86	1·60	5·17	2·31	0·61	37·83
Kinlochmoidart,	,,	6·51	9·68	8·23	2·85	3·39	2·53	6·78	10·44	5·08	13·70	8·76	5·98	83·93
Drumnadrochit,	,,	7·86	6·59	6·69	1·65	2·11	1·93	4·28	3·29	2·85	5·72	3·61	1·26	47·84
Glenquoich,	,,	21·20	21·35	20·99	6·31	5·32	3·59	10·13	16·47	8·47	16·31	14·41	7·28	151·83
Invergarry,	,,	12·32	16·88	15·94	2·39	2·86	2·37	5·90	9·19	4·61	10·29	6·97	4·80	94·52
Glenfinnan,	,,	14·34	17·00	14·46	4·64	5·42	2·69	10·11	15·49	8·50	18·70	14·03	8·97	134·35
Aviemore,	,,	5·63	4·20	4·11	1·75	2·02	2·10	3·81	4·03	2·88	4·38	3·50	0·40	38·81
Killin, Loch Ness,	,,	5·00	10·80	9·40	2·00	2·80	2·90	4·70	4·20	5·40	8·50	6·70	2·00	64·40
Garthbeg, ,,	,,	10·76	15·02	14·30	2·28	3·57	2·21	5·93	5·19	4·38	8·45	5·83	2·26	80·18
Aberchalder, ,,	,,	6·08	6·35	6·75	1·49	2·50	1·84	3·67	2·68	3·91	6·16	3·21	1·35	45·99
Foyers, ,,	,,	5·20	7·26	8·63	1·86	2·65	2·02	4·56	3·57	3·23	6·44	4·27	1·86	51·55
Mucomir,	,,	13·20	10·59	10·30	2·67	3·48	2·77	5·63	9·32	5·08	10·43	6·23	4·97	84·67
Delnies,	Nairn,	3·34	2·78	2·65	1·45	1·58	2·39	3·18	2·59	1·60	3·79	2·87	0·96	29·18
Achareidh,	,,	2·98	2·52	2·16	1·23	1·44	2·42	3·36	2·19	1·56	3·25	2·19	0·64	25·94
Budgate,	,,	4·42	3·47	3·24	1·40	2·25	2·33	3·63	3·03	1·95	4·11	3·40	0·68	33·91
Grantown,	Elgin,	4·16	3·32	2·95	2·74	1·86	1·96	4·08	3·65	2·79	3·95	3·11	0·84	35·41
Duffus House,	,,	2·93	2·18	1·49	1·72	1·85	1·57	4·30	4·06	1·14	3·51	2·71	1·12	28·58
Kinloss,	,,	2·63	2·93	1·89	1·30	1·72	1·70	3·20	2·87	1·46	2·77	2·47	0·97	25·91
Cullen House,	Banff,	4·10	1·80	2·05	2·10	1·75	1·20	6·35	4·00	2·85	4·10	3·20	2·40	35·90
Elchies,	,,	2·28	3·84	1·50	2·85	2·57	1·85	5·61	3·69	2·44	3·23	3·17	1·27	34·30
Aberlour,	,,	2·92	3·52	1·63	3·17	2·47	1·78	5·18	3·19	2·10	3·21	3·17	1·20	33·54
Dufftown,	,,	3·47	2·91	1·42	3·18	3·07	2·00	6·04	4·05	2·58	4·10	4·14	1·75	38·71
Keith,	,,	3·77	2·45	1·07	3·08	2·59	1·89	6·34	4·72	2·74	4·98	3·33	1·48	38·44
Coldstone Sc'lhouse,	Aberdeen,	2·80	3·57	2·17	3·40	2·12	1·62	5·75	3·40	2·51	5·46	2·69	2·99	38·48
Alford,	,,	2·94	3·06	1·69	3·22	2·26	1·86	6·59	3·80	2·44	5·59	2·71	2·89	39·05
Aberdeen, M.C.,	,,	4·26	2·89	1·62	2·07	2·23	1·64	5·03	4·18	2·95	4·47	2·94	2·54	36·82
Cranford,	,,	4·98	2·47	1·92	2·14	2·75	1·59	5·27	4·29	3·47	4·86	3·45	2·81	40·00
Johnston Lodge,	Kincardine,	3·25	3·94	4·08	2·27	2·59	2·16	6·07	4·08	3·99	6·71	1·84	4·67	45·65
Arbroath W'rw'ks—														
Tower,	Forfar,	1·59	1·70	1·19	0·36	0·64	1·24	2·51	2·08	1·29	2·14	0·36	1·09	16·19
Garden,	,,	3·38	3·31	1·78	0·69	1·33	1·58	4·32	3·74	2·39	4·47	0·84	1·90	29·73
The Burn,	,,	5·07	3·88	3·97	1·90	1·50	2·42	5·89	4·66	3·05	6·67	1·14	4·14	44·29
Brechin,	,,	2·90	3·55	3·66	1·75	1·58	2·20	4·47	4·80	2·65	6·58	1·12	4·38	39·64
Buddon Ness,	,,	4·22	2·84	1 95	0·84	1·17	1·93	4·25	4·45	2·12	4·61	0·94	2·29	31·61
Dundee Waterw'ks—														
Hillhead,	,,	4·85	2·77	2·85	1·26	1·68	2·28	5·25	4·40	3·14	6·15	1·16	2·96	38·75
Crombie,	,,	4·56	4·41	3·38	1·34	1·86	2·22	6·80	5·13	3·60	6·97	1·24	3·30	44·81
Craigton,	,,	4·90	2·81	2·54	1·18	1·95	2·28	5·43	4·39	3·08	5·97	1·22	2·47	38·22
Balnakeilly,	,,	4·30	4·20	5·50	2·00	1·50	3·00	5·30	5·50	2·00	6·50	1·00	3·60	44·40
Creich Hill,	,,	3·50	4·00	5·10	1·80	1·60	2·80	2·90	2·30	2·90	6·50	1·80	3·50	38·70
Lintrathen,	,,	5·40	4·70	6·00	2·20	1·80	3·30	5·30	6·30	2·60	6·70	1·40	4·10	49·80
Glendamff,	,,	5·80	7·20	6·50	2·00	1·80	2·60	4·80	5·40	3·30	8·20	2·50	4·70	54·80
Barney,	,,	3·50	4·70	6·30	2·30	1·70	2·50	4·50	5·10	3·20	7·70	2·10	6·60	50·20
Longdrum,	,,	4·10	4·70	5·50	2·90	1·70	2·60	4·50	4·10	4·20	8·50	1·80	5·70	50·30
Glendye,	,,	4·40	4·50	5·50	2·20	1·90	2·80	5·20	4·20	4·40	8·80	2·00	5·50	51·40
Broughty Ferry,	,,	4·07	3·24	2·11	0·95	1·34	2·37	4·79	4·94	2·29	5·09	1·04	2·26	34·49
Blair-Atholl,	Perth,	5·82	5·91	7·02	1·11	1·66	2·25	3·42	5·32	2·98	6·45	2·00	3·03	46·97
Rannoch Station,	,,	10 70	10·92	14·49	2·81	2·62	2·50	5·51	7·62	4·90	10·61	5·52	1·57	79·77
Coupar-Angus,	,,	3·80	3·69	3·91	1·31	1·23	2·30	4·12	4·19	2·57	4·81	0·86	2·81	35·60
Glasgow Wat'w'ks—														
Glengyle,	,,	17·80	17·40	19·10	1·50	2·40	4·00	6·50	16·00	9·70	19·10	9·50	6·50	129·50
Hill above Tunnel at Loch Katrine,	,,	16·00	14·80	20·10	3·30	3·40	3·70	7·70	11·00	6·50	17·10	6·00	9·70	119·30
Ledard,	,,	5·50	5·40	7·00	1·60	3·15	4·45	8·25	12·05	6·00	15·05	2·75	6·20	77·40
Loch Dhu,	,,	15·90	14·50	18·00	2·40	3·40	3·80	8·40	13·30	5·80	17·20	6·50	9·50	118·70
Duchray Head,	,,	13·30	15·50	17·20	2·70	4·10	3·80	10·00	20·50	8·50	22·10	6·50	9·10	133·30
Bet. Glen Finlas & Ben Ledi,	,,	2·80	4·50	5·60	1·00	1·90	4·50	7·30	9·30	5·50	13·40	2·70	7·40	65·90
Brig o' Turk,	,,	11·90	10·25	12·45	1·50	2·55	3·80	6·25	10·15	5·10	14·15	3·15	7·55	88·80
Loch Drunkie,	,,	13·00	11·20	11·60	1·80	2·10	3·80	6·80	10·00	5·00	11·50	4·20	6·70	87·70
Loch Vennachar,	,,	8·20	7·40	9·00	1·00	1·60	3·70	7·00	8·80	4·70	11·00	3·10	6·50	72·00
Aberfoyle,	,,	12·05	9·35	10·85	1·50	1·90	3·00	5·40	8·90	4·45	11·70	3·70	6·35	79·15
Blaircreach,	,,	14·06	15 28	...	2·33	3·58	4·15	...	...	...	...	...	...	...

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1903—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Ardvorlich,	Perth,	17·02	15·15	19·32	2·56	2·04	8·29	5·70	8·75	6·08	15·52	8·76	7·87	107·06
St. Fillans,	,,	11·89	12·57	17·59	1·64	2·38	2·83	5·60	6·88	6·41	18·18	8·85	7·07	91·84
Leny,	,,	12·00	10·00	11·00	1·60	1·00	8·04	5·00	6·07	4·11	12 05	4·03	5·08	74·98
Lanrick Castle,	,,	10·80	8·90	8·25	1·20	1·85	8·55	5·65	6·05	8·15	9·20	2·50	8·90	65·00
Net'r Cambushinnie,	,,	6·68	7·04	8·31	1·19	2·18	2·88	6·32	5·57	8·56	10·42	2·79	4·02	60·41
Lynns,	,,	6·40	6·68	6·02	0·90	1·78	2·68	4·82	5·08	8·18	9·25	2·67	2·95	52·31
Kippenross,	,,	8·50	8·20	7·10	0·85	1·28	2·00	5·50	5·25	8·45	9·30	1·50	8·70	56·68
Kippendavie,	,,	6·75	6·62	6·45	2·20	2·58	8·78	5·50	6·80	4·20	10·55	8·20	3·52	62·10
Glensherup,	,,	9·00	6·44	7·20	1·28	2·18	4·87	7·36	7·00	5·00	12·00	4·00	2·52	68·20
Doune, Gartincaber,	,,	6·25	6·65	7·08	1·47	2·14	8·12	5·18	6·06	8·48	9·90	1·88	8·22	56·38
Bridge of Earn,	,,	4·50	4·90	5·20	0·70	1·00	1·80	4·10	8·90	2·20	6·50	1·10	1·90	87·80
Abernethy,	,,	7·17	6·02	5·96	0·30	1·94	2·38	4·27	4·64	2·25	6·52	1·90	8·35	46·70
Mountquhanie,	Fife,	4·50	4·90	8·00	0·50	1·00	1·90	4·50	5·50	2·60	6·00	1·20	2·40	38·00
Tayport Low Light.,	,,	8·97	8·56	2·18	0·91	1·08	2·14	4·52	4·86	1·86	4·96	0·97	2·29	83·25
Balcarres,	,,	5·21	4·68	2·98	1·46	1·35	2·44	6·14	4·89	2·51	6·26	1·39	1·83	41·09
Lothrie Reservoir,	,,	5·20	5·77	4·36	1·37	1·98	2·70	5·88	5·02	8·06	7·29	1·56	2·83	47·02
Craigluscar,	,,	8·08	5·09	6·10	0·90	2·25	2·10	4·50	8·10	1·11	5·40	1·90	1·70	42·28
Keavil,	,,	4·72	6·19	5·09	0·92	1·35	1·68	4·12	8·26	1·99	5·96	1·60	1·25	88·18
Outh,	,,	8·97	4·97	5·27	0·85	8·12	2·92	5·69	8·25	3·08	6·77	2·85	2·24	44·48
Chatto Reservoir,	,,	4·00	4·63	8·88	0·88	1·09	1·98	4·75	4·98	2·95	5·80	1·47	2·05	87·86
Dollar,	Clackmannan,	5·64	8·88	5·11	1·12	1·73	2·76	5·64	5·49	4·11	8·64	1·68	2·58	47·88
Alloa,	,,	5·80	6·63	6·80	1·11	0·65	8·71	4·48	4·52	2·88	7·81	1·46	2·10	47·95
Loch Leven Sluices,	Kinross,	7·20	6·96	6·56	1·29	1·68	2·87	5·41	4·78	8·04	7·55	1·68	8·27	52·19
Blairingone,	,,	6·97	6·13	6·40	1·09	2·09	8·63	5·77	6·12	8·81	8·52	1·85	2·67	54·55
Gelly Bank,	,,	6·11	6·21	5·59	1·09	1·54	2·32	4·95	4·16	2·98	6·94	2·01	8·02	46·92
Cleish Castle,	,,	8·00	8·00	4·80	1·60	2·80	1·60	2·20	4·83	4·76	8·80	4·50	1·86	48·25
Kerse, Gauge No. I.,	Stirling,	7·90	7·90	8·60	1·50	1·20	2·00	4·20	4·10	2·80	6·70	1·60	2·20	50·20
,, ,, No. II.,	,,	7·56	7·85	8·66	1·57	1·26	1·80	4·22	4·19	2·26	6·58	1·80	2·18	49·48
Polmaise,	,,	7·40	6·70	7·82	0·40	1·20	2·85	4·25	4·65	8·05	8·80	1·62	2·60	50·84
Stirling Waterw'rks,	,,	9·30	7·51	8·63	1·02	2·66	8·45	5·70	6·05	8·84	10·54	2·06	8·79	64·55
Mugdock Reservoir,	,,	6·10	6·00	7·00	1·20	2·00	2·70	8·95	6·35	8·60	8·70	2·75	2·85	58·20
Currymire,	,,	8·57	9·46	9·25	1·66	2·29	4·18	5·00	6·70	8·62	10·25	8·11	8·58	67·62
Arrochar,	Dumbarton,	6·87	9·16	15·22	1·49	8·57	1·83	5·54	11·80	5·54	10·64	7·32	7·25	86·28
Glenborrowdale,	Argyll,	9·86	11·29	10·82	8·18	8·85	1 25	6·65	8·19	5·49	12·74	7·65	5·13	85·60
Quinish,	,,	6·69	7·92	7·77	2·35	8·82	2·34	5·00	8·08	8·22	11·51	5·86	5·70	69·26
Eriska,	,,	8·69	8·69	10·17	8·47	8·89	2·19	7·04	8·76	4·14	11·79	6·28	5·48	80·54
Laudale,	,,	12·78	18·81	15·27	2·70	4·05	2·75	5·84	18·17	7·88	16·45	9·56	9·01	112·22
Stonefield,	,,	10·48	10·35	10·48	8·72	8·57	2·58	6·44	12·18	5·87	18·52	7·17	6·29	92·00
Ardsheal, Ballachulish,	,,	11·99	12·89	18·54	8·18	8·25	8·87	7·18	11·94	6·09	15·68	7·78	7·52	104·86
Drimnin,	,,	7·62	10·33	9·54	2·42	8·02	2·78	5·59	8·13	4·64	18·26	6·68	6·61	80·57
Inveraray Castle,	,,	12·90	18·87	12·98	8·71	8·46	2·96	4·85	12·99	5·05	14·86	8·04	6·75	101·42
,, Newton,	,,	10·60	11·17	11·20	8·24	2·98	2·96	4·63	10·95	4·61	18·08	6·83	6·49	88·74
ArdrishaigCanalOff.,	,,	9·41	9·85	9·74	8·18	8·80	2·29	5·44	9·87	4·52	11·65	7·40	6·28	82·88
Campbeltown, The Rectory,	,,	7·79	4·45	6·18	1·88	8·69	1·78	8·49	7·07	8·18	11·12	5·75	5·37	61·70
,, Redknowe,	,,	7·58	8·64	5·24	1·77	8·69	1·55	4·83	6·69	2·86	11·27	4·80	5·46	58·85
Dunoon,	,,	10·45	9·01	10·98	2·89	4·19	1·94	5·85	10·38	4·29	12·37	5·89	6·84	88·98
Tighnabruaich,	,,	7·91	8·41	8·62	2·48	8·46	2·60	5·08	9·45	4·05	10·61	5·83	4·98	78·48
Ardbeg,	,,	6·26	5·22	5·28	8·04	2·72	0·59	8·95	6·05	8·80	9·82	6·48	8·25	55·91
Islay, Eallabus,	,,	6·70	5·57	6·15	2·87	1·94	0·94	8·59	7·18	8·98	9·59	5·68	4·41	58·00
Waulk Glen Res.,	Renfrew,	9·70	10·10	9·70	1·75	8·05	1·65	4·90	8·00	4·15	9·75	8·50	5·00	71·25
Ryat Linn Reservoir,	,,	9·90	10·85	9·90	1·85	8·15	1·75	5·05	8·10	4·25	9·95	8·60	5·10	72·95
Middleton,	,,	12·25	11·55	11·25	2·10	8·90	1·95	5·45	9·80	4·45	11·60	8·95	5·65	88·90
Black Loch,	,,	4·60	9·05	8·10	1·95	2·50	2·15	5·15	7·40	5·90	7·90	8·20	5·70	68·60
Castle Semple,	,,	9·48	8·04	6·45	2·21	8·18	2·06	8·96	9·02	4·20	8·63	4·14	4·07	65·89
Greenock Wat'w'ks—														
Prospect Hill,	,,	11·34	12·10	12·56	2·11	8·89	2·85	5·04	9·80	5·00	10·97	4·98	6·76	87·85
New Yetts Dam,	,,	11·50	11·18	12·82	2·35	4·16	8·37	6·21	11·10	6·05	13·24	5·87	7·81	94·16
Hole Glen,	,,	10·28	10·00	10·58	2·26	3·91	2·92	5·81	10·41	5·48	11·82	4·80	6·42	84·59
Spango Burn,	,,	11·00	18·80	10·90	2·50	4·20	2·30	5·80	11·80	4·80	13·90	5·20	7·70	92·90
Shielhill,	,,	18·10	12·40	11·10	2·70	4·70	2·50	6·20	12·60	6·10	14·80	5·10	7·80	98·60
Comp'nsat'n Res.,	,,	8·41	10·08	9·58	2·08	8·57	2·72	5·83	9·84	5·27	12·80	5·45	7·50	82·58
Loch Thom,	,,	7·82	10·24	10·38	1·98	8·87	2·98	5·51	9·02	5·25	11·84	5·44	7·48	81·76
Kelly Dam,	,,	9 50	9·60	9·10	2·50	4·10	2·90	5·50	11·70	4·50	12·50	5·40	6·50	88·80
Knockencorsan,	,,	8·70	8·10	8·80	2·10	4·70	8·30	5·60	12·40	4·80	12·00	5·20	6·40	82·10
Largs Road,	,,	7·04	7·84	8·65	1·35	8·15	2·72	4·70	10·74	4·60	9·65	5·20	5·77	71·41
Creuch Hill,	,,	6·90	11·60	7·90	2·10	4·00	8·20	6·20	18·00	5·50	12·10	5·40	6·20	84·10
Duchall Moor,	,,	11·20	12·80	12·00	2·60	5·00	8·40	7·90	18·00	6·20	14·70	6·50	6·90	101·70
Green Water,	,,	11·20	12·50	12·90	2·70	4·50	8·10	6·60	12·60	5·90	13·80	5·90	6·70	97·90
Gryfe Reservoir,	,,	11·50	18·50	12·60	2·70	4·20	8·10	5·80	11·70	5·50	12·30	5·10	6·60	94·60
Mansfield,	,,	10·41	11·88	12·79	2·47	4·14	8·14	5·63	12·19	5·59	12·22	5·06	6·42	91·89
Darndaff Moor,	,,	10·70	12·80	12·60	2·60	4·10	8·30	5·80	9·90	5·40	12·20	5·10	6·40	90·40
Kilmalcolm,	,,	8·80	9·18	7·96	1·25	2·50	1·98	8·36	7·12	3·29	8 10	8·00	4·28	60·82
Paisley W'terw'ks—														
Stanley,	,,	7·68	7·10	6·44	1·48	2·46	2·10	3·01	6·39	8·80	6·73	2·50	8·57	58·21
Back Thornleymuir,	,,	8·84	9·23	8·68	2·15	8·51	2·72	4·58	9·08	5·26	9·48	8·64	4·35	71·42
Muirhead,	,,	9·59	9·08	8·59	2·22	8·59	8·27	4·51	10·16	5·50	9·50	4·51	5·87	75·84
Springside,	,,	11·10	9·88	9·84	2·53	8·94	8·21	4·87	10·58	5·88	9·88	4·97	5·65	81·68
Auchendores Res.,	,,	8·53	9·50	10·80	1·72	2·90	2·25	4·87	6·82	4·70	9·59	4·15	5·35	71·18
Douglichill Res.,	,,	7·90	9·25	10·85	1·92	8·40	2·09	4·72	7·26	5·10	10·00	4·40	5·50	71·89
Loch Finlas,	Ayr,	7·52	9·18	11·24	2 08	8·45	2·69	4·29	7·91	5·22	11·61	5·90	6·88	77·87

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1903—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Camphill,	Ayr,	8·85	5·55	6·60	1·90	4·15	3·70	6·50	12·00	5·25	11·55	4·70	6·20	76·95
Dalry, Blair,	,,	8·10	6·59	6·56	2·30	3·48	3·21	4·70	9·38	4·12	9·30	4·19	4·91	66·84
Pinmore,	,,	6·74	5·18	6·82	2·15	3·51	3·09	4·75	5·85	4·31	10·45	4·97	5·46	63·28
Saltcoats,	,,	7·15	4·43	6·05	1·61	2·49	2·11	3·93	6·17	4·23	7·42	3·81	3·69	53·09
North Craig,	,,	7·00	5·00	8·30	1·40	3·00	3·20	3·50	7·30	4·40	9·50	4·00	4·00	60·60
Ayr, Doonside,	,,	7·55	5·69	7·81	1·71	4·24	2·37	3·09	6·69	3·76	8·61	3·67	3·85	59·04
,, Doonholm,	,,	7·40	5·80	7·50	1·58	3·98	2·27	2·79	6·07	2·96	7·78	3·37	3·81	55·31
Glendrishaig,	,,	7·30	4·62	6·52	1·10	3·20	2·10	2·55	6·03	2·55	7·28	3·00	3·85	50·10
Colmonell,	,,	7·15	3·35	5·65	1·10	3·20	1·99	3·49	4·72	3·46	9·01	4·92	4·90	52·94
Glasg., Queen's Prk.,	Lanark,	7·16	7·27	7·96	1·34	...	1·74	3·74	6·28	3·82	7·47	2·70	3·20	...
Hamilton Waterw'ks	,,	6·85	7·10	10·40	1·15	2·05	1·85	3·20	5·60	3·15	6·20	2·65	2·80	53·00
Mauldslie Castle,	,,	5·84	6·02	7·25	1·07	1·88	1·47	3·86	4·85	2·53	6·30	2·95	2·03	45·05
Cambus-Wallace,	,,	4·40	3·42	5·06	1·08	1·61	1·10	2·74	2·00	1·60	3·60	2·12	2·85	31·58
Lanark, Rhyber L'ge	,,	4·70	4·80	7·00	1·00	1·70	1·80	4·40	5·20	2·80	7·00	2·80	2·10	45·30
Cleghorn,	,,	6·31	5·17	7·68	1·39	2·00	1·66	4·44	6·51	2·96	7·06	3·38	2·45	51·01
Airdrie, Hillend Res.,	,,	5·65	7·71	6·87	1·37	2·01	1·88	3·71	5·90	2·99	7·45	2·54	2·33	50·86
,, Roughrigg ,,	,,	5·73	6·25	6·74	1·33	1·69	2·04	3·91	5·85	2·85	7·16	2·54	2·21	48·30
Polkemmet,	Linlithgow,	8·02	7·52	8·23	1·78	2·00	2·20	4·88	5·32	2·68	7·31	2·77	2·82	55·53
Boghead,	,,	5·92	6·82	7·92	1·51	2·20	1·97	4·67	5·25	2·81	8·54	2·83	2·53	52·97
Uphall,	,,	6·00	5·94	6·70	1·32	1·75	1·60	3·93	4·40	2·26	7·17	2·60	1·85	45·52
Carriber Reservoir,	,,	6·80	5·89	6·53	1·25	1·72	1·91	4·68	4·63	2·26	7·30	2·06	1·86	46·89
Bo'ness, Grange,	,,	5·19	5·84	6·26	0·85	1·57	1·67	3·94	3·21	2·05	5·50	1·46	1·36	38·90
Addiewell,	Edinburgh,	4·19	4·83	6·76	1·26	1·53	1·94	3·94	3·61	2·53	6·61	2·36	2·21	41·77
Edin. Waterworks—														
Portmore,	,,	4·85	4·95	3·95	1·32	2·60	1·90	4·00	3·90	2·35	8·52	2·65	2·40	43·39
Bowbate,	,,	6·75	6·25	5·15	1·25	2·65	2·10	4·70	5·30	2·50	9·75	3·55	3·68	53·58
Gladhouse,	,,	5·25	5·53	4·30	1·42	2·33	1·80	4·18	4·30	2·23	8·33	2·46	2·20	44·33
Rosebery,	,,	3·87	4·90	3·97	1·00	1·91	1·33	4·18	4·30	2·29	6·63	2·07	1·62	38·07
Glencorse,	,,	5·93	6·30	6·58	1·49	2·98	1·98	4·83	4·11	2·73	8·37	2·65	2·09	49·99
Loganlea,	,,	5·79	5·75	6·71	1·40	2·78	1·84	4·29	3·84	2·70	8·28	2·62	2·11	48·11
Harehill,	,,	5·75	6·15	7·10	1·45	2·65	2·05	4·50	4·00	3·00	8·40	2·55	2·20	49·80
Harbour Hill,	,,	6·80	9·42	9·40	1·30	2·74	2·00	4·90	4·50	2·90	7·75	2·30	3·00	57·01
Clubbiedean,	,,	4·80	4·30	6·00	1·40	2·38	1·89	4·72	3·32	2·32	7·20	2·09	1·50	41·92
Harlaw,	,,	5·13	4·67	6·33	1·27	2·27	1·54	4·22	3·58	3·24	7·58	2·28	1·82	43·93
Harperrig,	,,	8·10	7·70	9·37	1·50	2·46	1·51	4·06	4·18	2·46	7·55	2·46	2·16	53·51
Crosswood,	,,	5·44	6·32	7·63	1·31	1·91	1·81	3·76	5·99	2·70	6·85	2·61	2·61	48·94
Alnwick Hill,	,,	4·58	4·01	4·37	0·95	1·60	1·50	4·04	2·88	2·35	6·81	1·64	1·07	34·80
Swanston,	,,	3·55	5·10	5·25	1·12	1·90	1·55	3·97	2·78	2·05	6·58	1·50	1·63	36·98
Edgelaw,	,,	3·34	3·92	3·99	1·01	1·91	1·82	4·17	4·28	2·28	6·64	0·74	1·63	35·73
Davidson's Mains, Broomfield,	,,	4·16	4·62	4·63	1·01	1·21	1·58	4·37	3·52	1·95	5·78	1·49	1·35	35·67
Leith, M.C.,	,,	4·04	3·76	3·25	0·92	1·06	1·42	3·75	3·59	1·87	5·08	1·30	0·90	30·94
Edinburgh—														
Charlotte Square,	,,	4·28	3·88	3·33	1·40	1·30	1·25	4·00	3·05	2·00	5·80	1·80	1·15	33·24
Streatham House,	,,	4·70	6·00	4·90	1·20	1·60	1·30	4·40	3·20	2·20	7·00	2·00	1·40	39·90
Stow, Burnhouse,	,,	4·39	2·25	4·05	1·56	1·43	1·23	4·62	3·76	2·69	8·05	2·06	2·50	38·59
Aberlady,	Haddington,	3·45	3·79	2·21	0·87	0·50	1·59	3·82	4·22	2·02	4·94	1·57	0·91	29·89
No. Berwick Res.,	,,	3·05	4·02	2·16	0·65	0·77	1·40	4·39	4·23	2·76	6·02	1·39	1·10	31·94
Whittingehame,	,,	2·87	4·38	1·98	1·19	1·13	2·45	4·46	3·05	2·88	7·09	2·25	1·34	35·07
Donolly Reservoir,	,,	6·25	4·10	2·47	2·01	1·50	2·73	4·21	3·63	2·73	6·82	2·21	2·11	40·77
Witches Knowe,	,,	2·49	3·41	2·71	0·75	1·25	1·70	3·64	3·36	2·30	5·24	1·59	1·28	29·72
Hangingshaw,	Selkirk,	5·27	6·04	5·91	1·09	1·07	1·90	1·90	4·01	2·42	10·12	1·31	2·56	46·17
North Esk Res.,	Peebles,	5·40	6·25	6·75	1·50	2·85	2·00	4·15	4·85	2·70	7·90	3·25	1·30	48·90
The Glen,	,,	5·30	8·00	9·00	...	...	...	...	6·00	2·80	9·80	1·70	4·70	...
Swinton Bank,	,,	4·17	4·98	4·58	1·54	1·76	0·98	3·08	5·04	2·21	9·22	2·66	2·27	42·49
The Hirsel,	Berwick,	3·48	2·48	1·82	1·16	1·00	1·71	4·73	2·93	2·28	6·58	1·68	1·72	31·52
Cowdenknowes,	,,	4·03	4·02	3·06	1·39	1·50	1·45	4·25	3·64	2·80	8·27	1·87	1·55	37·83
Elliston,	Roxburgh,	4·26	3·37	3·44	1·08	1·87	1·45	3·38	2·87	2·71	7·81	1·53	1·83	35·10
Wooplaw,	,,	3·58	4·38	3·25	1·56	2·18	1·32	3·63	3·81	3·01	8·10	2·18	1·95	38·90
Lilliesleaf,	,,	5·47	3·79	5·03	1·57	2·02	1·48	4·86	3·53	3·07	8·21	1·86	1·33	42·22
Springwood Park,	,,	3·19	2·23	1·45	0·67	0·88	0·99	2·32	2·86	1·94	5·73	1·11	0·83	24·20
Jedburgh, Ancrum Bridge,	,,	4·41	3·07	3·16	1·17	1·24	1·29	4·49	2·91	3·06	7·72	1·66	1·29	35·47
Branxholm,	,,	4·70	4·14	6·06	1·11	1·69	1·16	3·46	3·91	3·15	6·22	2·44	2·32	40·36
Ewes,	Dumfries,	9·40	6·90	11·20	2·45	2·80	1·70	5·60	6·20	4·50	11·20	2·60	3·30	67·85
Drumpark,	,,	6·62	7·12	10·76	1·50	3·46	2·70	5·26	6·39	4·05	10·19	4·40	4·15	66·60
Langholm, Burnfoot.	,,	8·92	6·89	11·15	2·10	2·84	1·71	5·38	8·15	5·02	11·09	3·77	4·23	71·25
,, Drove Rd.,	,,	8·08	6·52	9·75	2·54	2·62	2·27	5·73	7·92	5·71	11·85	3·85	3·87	70·71
Byreburnfoot,	,,	6·89	5·12	5·62	2·25	2·50	1·62	4·89	7·12	4·38	10·62	3·25	2·86	57·12
Ericstane,	,,	8·00	8·54	12·50	1·23	1·70	2·48	3·92	6·67	3·64	4·45	3·36	4·78	61·27
Moffat,	,,	...	...	...	...	...	2·32	4·27	5·94	4·36	11·81	3·65	4·55	...
Dalawoodie,	,,	6·18	5·65	7·67	1·58	...	...	...	...	...	...	...	...	...
Maxwelton House,	,,	8·49	6·44	11·66	1·33	2·63	2·44	4·19	7·66	5·01	11·63	4·25	4·73	70·46
Glencrosh,	,,	8·66	7·54	12·51	2·32	3·07	3·30	3·83	7·55	5·43	11·25	5·03	5·72	76·21
Dalbeattie, Richorn,	Kirkcudbright,	5·58	3·83	7·63	1·08	3·24	2·84	5·00	5·88	4·12	10·79	3·21	3·95	57·15
,, Kirkennan,	,,	6·14	4·91	8·72	1·31	3·34	2·98	4·40	5·78	4·22	10·46	3·79	4·32	60·37
Old Garroch,	,,	10·20	13·85	10·24	2·32	3·38	3·10	4·52	8·95	6·24	12·84	5·46	6·86	86·96
Auchencairn,	,,	5·84	3·60	8·77	1·97	3·46	3·14	5·04	6·10	4·32	11·02	3·87	4·27	61·40
Ardwell House,	Wigtown,	5·00	2·17	4·00	1·28	3·94	2·92	3·34	4·13	3·19	9·46	3·35	3·09	45·87
Whithorn, Cutroach,	,,	5·03	2·77	3·78	1·41	3·11	2·18	3·94	4·15	4·52	7·72	3·05	2·95	44·61
Galloway House,	,,	6·19	3·46	5·39	1·32	3·14	2·28	4·41	5·52	3·26	8·87	3·29	3·35	50·48
Douglas,	Isle of Man,	5·29	3·06	3·90	1·88	2·96	2·53	4·77	3·95	6·17	8·95	4·21	4·58	52·25

7. (1) RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

JANUARY–MARCH 1902.

	Height.	Mean Temperature.	Barometer.	Direction of Wind.								Calm or Variable.	Gales and Storms.	Rain.		Fog.
			Mean at 32°.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
JANUARY.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	40·1	29·721	3	1	1	1	2	8	10	5	0	22	9	1·27	9
Isle of May	240	39·1	29·710	4	1	1	1	1	1	16	5	1	0	5	0·60	10
Bell Rock	93	39·6	29·852	3	2	1	0	3	5	11	6	0	0	5	...	6
Kinnairdhead	120	39·3	29·752	4	2	1	0	1	6	9	8	0	66	17	1·10	0
Tarbetness	175	37·1	29·684	1	0	1	1	0	11	12	5	0	104	13	1·20	0
Pentland Skerries	170	39·7	29·621	6	1	1	1	6	4	10	2	0	158	21	2·82	0
Hoy Sound, Low	55	40·1	29·763	5	1	1	1	3	8	8	4	0	170	22	2·90	0
Start Point	80	40·4	29·697	3	1	1	1	4	5	10	6	0	193	14	2·40	0
Bressay Sound	105	40·2	29·583	4	1	1	1	3	4	9	8	0	139	24	4·20	0
Holbornhead	75	38·9	29·748	5	1	1	1	4	10	7	2	0	19	24	3·20	0
Cape Wrath	400	39·0	29·391	3	2	1	1	2	8	10	4	0	223	20	3·41	6
Butt of Lewis	170	39·6	29·662	4	1	2	1	4	10	6	3	0	237	21	5·19	18
Barrahead	688	39·7	29·192	2	3	1	1	7	10	4	3	0	10	16	1·60	64
Skerryvore	150	42·2	29·818	3	1	1	3	4	6	8	5	0	146	21	...	10
Rona	222	40·2	29·654	3	2	2	1	6	8	6	3	0	67	19	3·75	0
Ardnamurchan	180	41·4	29·742	3	2	1	4	5	7	6	3	0	10	21	4·28	15
Rhinns of Islay	150	41·9	29·888	4	2	2	3	1	4	11	4	0	47	22	2·30	28
Mull of Kintyre	297	41·1	29·720	1	2	4	8	6	4	6	5	0	27	17	2·45	23
Turnberry	96	41·8	29·942	3	3	3	2	10	6	8	1	0	36	15	4·90	0
Corsewall	112	41·8	29·981	2	2	3	1	4	8	6	5	0	37	17	2·79	0
Mull of Galloway	325	40·0	29·707	2	2	2	2	2	10	8	3	0	26	11	1·75	19
FEBRUARY.																
St. Abb's Head	224	34·6	29·624	2	2	5	7	3	4	2	8	0	0	6	0·72	34
Isle of May	240	35·9	29·598	5	1	2	5	6	1	4	3	1	0	5	1·20	16
Bell Rock	93	36·4	29·763	2	4	2	5	7	1	4	8	0	0	3	...	3
Kinnairdhead	120	36·1	29·719	8	0	2	2	8	5	3	5	0	0	11	0·25	8
Tarbetness	175	35·1	29·628	1	1	3	6	5	4	1	7	0	7	7	0·40	0
Pentland Skerries	170	37·7	29·633	6	3	1	7	6	1	2	1	1	0	7	0·13	8
Hoy Sound, Low	55	37·2	29·770	5	2	0	9	4	2	1	4	1	0	14	1·01	8
Start Point	80	37·8	29·729	4	3	3	8	3	2	2	3	0	53	8	1·70	9
Bressay Sound	105	37·5	29·705	3	4	2	4	4	5	1	4	1	0	15	2·10	0
Holbornhead	75	36·8	29·734	5	2	1	5	8	3	2	1	1	0	16	1·10	6
Cape Wrath	400	37·4	29·370	2	1	5	5	4	6	1	4	0	0	15	1·11	0
Butt of Lewis	170	38·3	29·613	3	2	3	7	6	4	2	1	0	37	14	1·62	0
Barrahead	683	37·0	29·049	4	6	2	2	9	3	0	2	0	0	18	1·52	90
Skerryvore	150	39·6	29·630	3	5	3	6	6	2	0	3	0	49	12	...	0
Rona	222	38·2	29·553	3	4	3	2	18	0	2	1	0	18	8	0·50	0
Ardnamurchan	180	38·6	29·593	3	2	5	12	3	0	0	3	0	29	14	1·19	0
Rhinns of Islay	150	38·7	29·655	4	3	4	8	5	2	1	1	0	0	11	1·23	26
Mull of Kintyre	297	37·9	29·515	3	3	5	10	3	1	1	1	1	0	11	1·30	54
Turnberry	96	38·0	29·748	3	5	6	8	2	1	1	1	1	0	9	0·70	7
Corsewall	112	37·5	29·723	4	3	2	11	4	1	0	3	0	24	13	2·15	82
Mull of Galloway	325	36·6	29·474	3	2	6	5	6	4	1	1	0	49	12	1·15	84
MARCH.																
St. Abb's Head	224	42·1	29·456	2	2	1	1	5	9	7	3	1	0	8	1·33	11
Isle of May	240	40·9	29·419	2	1	1	3	2	6	14	1	1	0	7	0·95	12
Bell Rock	93	41·7	29·570	3	1	2	1	5	11	7	1	0	0	3	...	3
Kinnairdhead	120	41·1	29·498	3	1	1	1	3	9	7	6	0	0	18	2·20	14
Tarbetness	175	39·9	29·408	2	1	2	3	2	12	5	4	0	38	11	1·92	0
Pentland Skerries	170	41·5	29·376	6	1	1	4	7	4	5	2	1	26	15	1·52	11
Hoy Sound, Low	55	41·4	29·503	5	2	1	6	3	8	3	3	0	34	18	4·24	10
Start Point	80	41·1	29·466	4	3	1	6	6	5	4	2	0	77	17	3·40	8
Bressay Sound	105	40·6	29·413	4	4	3	4	5	6	3	2	0	16	25	4·50	6
Holbornhead	75	40·8	29·482	4	2	1	3	8	7	4	2	0	14	25	3·60	3
Cape Wrath	400	40·1	29·129	3	3	3	3	2	10	4	3	0	25	27	3·63	26
Butt of Lewis	170	42·2	29·898	6	1	1	3	3	9	4	4	0	91	25	3·24	16
Barrahead	688	40·4	28·887	3	3	0	1	7	6	9	2	0	6	24	2·34	150
Skerryvore	150	43·3	29·471	4	1	1	2	5	4	8	6	0	57	25	...	15
Rona	222	41·6	29·376	3	4	1	2	8	8	1	4	0	25	22	4·70	0
Ardnamurchan	180	42·8	29·438	2	3	1	4	7	5	6	3	0	12	26	4·44	30
Rhinns of Islay	150	43·1	29·514	3	1	1	3	4	4	12	3	0	14	20	2·43	42
Mull of Kintyre	297	42·8	29·898	2	1	1	6	8	2	5	6	0	0	21	3·80	29
Turnberry	96	44·0	29·611	2	1	1	5	9	7	4	2	0	12	24	3·90	5
Corsewall	112	43·1	29·598	1	0	0	4	7	7	6	6	0	9	25	1·82	12
Mull of Galloway	325	42·1	29·361	2	1	0	1	5	12	6	4	0	32	16	1·59	53

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

April–June 1902.

	Height.	Mean Temperature.	Barometer. Mean at 32°.	Direction of Wind.								Calm or Variable.	Gales and Storms.	Rain.		Fog.
				N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
APRIL.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	43·2	29·685	2	4	5	3	5	2	4	5	0	19	7	1·65	21
Isle of May	240	43·5	29·667	0	2	7	3	5	3	5	4	1	0	8	1·10	82
Bell Rock	93	43·2	29·833	2	2	6	1	9	3	5	2	0	0	5	...	10
Kinnairdhead	120	43·2	29·768	4	2	2	3	8	3	3	5	0	41	10	2·50	9
Tarbetness	175	43·2	29·696	0	4	5	5	3	6	3	4	0	34	7	1·07	0
Pentland Skerries	170	44·2	29·701	2	2	2	7	6	1	5	4	1	33	11	1·50	11
Hoy Sound, Low	55	44·7	29·834	2	2	1	10	1	5	5	4	0	86	12	2·13	12
Start Point	80	43·9	29·811	2	3	4	9	3	2	3	4	0	140	10	1·80	10
Bressay Sound	105	42·7	29·786	3	3	2	7	5	2	3	4	1	22	12	2·30	25
Holbornhead	75	43·7	29·889	3	2	3	7	1	6	5	2	1	18	11	1·10	6
Cape Wrath	400	44·0	29·454	2	2	3	4	8	3	4	4	0	21	11	0·93	0
Butt of Lewis	170	44·6	29·689	2	2	6	3	9	3	2	3	0	15	12	1·90	3
Barrahead	683	42·4	29·133	2	4	3	5	7	5	2	2	0	0	15	1·91	45
Skerryvore	150	45·0	29·713	3	2	3	7	5	3	3	4	0	0	14	...	0
Rona	222	45·1	29·638	2	3	5	3	10	3	1	3	0	0	8	1·15	0
Ardnamurchan	180	44·9	29·682	1	5	4	7	5	3	1	3	1	0	16	3·12	0
Rhinns of Islay	150	44·4	29·724	2	2	5	6	6	2	4	3	0	0	12	1·45	2
Mull of Kintyre	297	44·7	29·577	2	3	5	9	3	1	2	4	1	24	11	2·40	20
Turnberry	96	45·2	29·820	1	6	4	5	8	1	3	2	0	59	14	1·30	4
Corsewall	112	44·6	29·800	1	4	3	6	6	2	3	4	1	24	14	2·12	3
Mull of Galloway	325	44·1	29·567	1	3	6	3	6	4	4	3	0	84	10	1·22	19
MAY.																
St. Abb's Head	224	43·9	29·701	11	3	3	2	2	2	6	2	0	12	11	2·38	0
Isle of May	240	44·3	29·678	5	7	2	3	1	1	8	2	2	23	11	1·15	4
Bell Rock	93	47·0	29·832	10	3	4	1	1	2	7	2	1	26	6	...	0
Kinnairdhead	120	44·6	29·787	10	4	3	1	3	2	2	6	0	0	17	1·05	0
Tarbetness	175	44·0	29·728	6	3	5	1	0	4	6	6	0	14	16	1·54	0
Pentland Skerries	170	43·9	29·712	12	4	2	2	2	2	5	2	0	34	16	1·61	0
Hoy Sound, Low	55	43·9	29·849	11	4	2	2	1	5	1	5	0	41	18	2·55	3
Start Point	80	43·8	29·791	15	3	1	2	2	1	5	2	0	37	12	1·22	2
Bressay Sound	105	43·2	29·736	12	6	1	1	1	2	5	3	0	21	15	1·00	21
Holbornhead	75	44·1	29·827	12	6	1	1	2	2	5	1	1	13	23	1·50	0
Cape Wrath	400	42·1	29·499	5	7	6	2	0	1	6	4	0	94	28	1·60	44
Butt of Lewis	170	43·5	29·758	10	4	5	1	2	5	3	1	0	49	17	1·18	17
Barrahead	683	42·7	29·247	9	5	2	1	3	5	4	2	0	0	18	1·67	42
Skerryvore	150	45·2	29·828	10	2	1	1	2	3	6	6	0	46	22	...	21
Rona	222	44·4	29·715	8	10	3	1	3	3	1	2	0	0	18	1·69	0
Ardnamurchan	180	44·9	29·770	8	6	2	1	2	4	4	3	1	0	19	2·87	16
Rhinns of Islay	150	45·7	29·810	12	2	1	2	1	2	8	3	0	0	22	2·13	36
Mull of Kintyre	297	45·4	29·631	6	2	1	0	6	1	2	13	0	25	16	3·95	30
Turnberry	96	46·6	29·850	11	4	1	1	5	2	6	1	0	24	17	2·20	0
Corsewall	112	45·9	29·884	7	1	1	1	2	3	7	9	0	17	19	2·89	3
Mull of Galloway	325	46·4	29·595	11	2	2	1	2	4	5	4	0	36	14	2·55	27
JUNE.																
St. Abb's Head	224	50·1	29·704	4	4	2	8	1	3	3	4	1	0	11	2·35	141
Isle of May	240	49·5	29·689	2	7	6	5	2	0	4	1	3	0	10	2·10	162
Bell Rock	93	50·4	29·856	3	9	5	5	1	1	5	1	0	0	7	...	119
Kinnairdhead	120	50·1	29·823	4	7	3	5	6	3	0	2	0	0	12	2·05	100
Tarbetness	175	50·3	29·767	0	9	15	1	1	1	0	2	1	0	12	3·75	27
Pentland Skerries	170	49·7	29·779	6	8	7	5	2	0	1	1	0	0	10	1·05	91
Hoy Sound, Low	55	50·0	29·906	4	7	3	11	1	1	2	1	0	0	9	1·48	99
Start Point	80	48·9	29·877	9	5	6	8	1	0	0	1	0	21	6	2·10	113
Bressay Sound	105	49·0	29·849	8	8	5	3	2	0	1	1	2	0	6	2·60	61
Holbornhead	75	49·5	29·874	6	7	6	4	2	1	2	0	2	0	15	3·00	33
Cape Wrath	400	49·7	29·510	1	5	9	8	1	1	4	1	0	26	12	1·85	87
Butt of Lewis	170	49·8	29·765	4	6	11	3	3	0	1	1	1	0	8	0·70	58
Barrahead	683	49·2	29·170	5	7	3	6	5	2	1	0	1	0	11	1·13	85
Skerryvore	150	51·9	29·755	7	8	7	3	2	0	1	2	0	24	10	...	7
Rona	222	52·7	29·700	5	8	5	4	5	1	0	1	1	0	12	1·00	25
Ardnamurchan	180	54·0	29·730	4	7	4	8	2	1	1	1	2	0	9	1·44	3
Rhinns of Islay	150	52·3	29·758	7	2	7	10	2	0	1	1	0	0	15	0·77	35
Mull of Kintyre	297	53·1	29·681	2	2	9	9	2	0	0	6	0	47	10	4·41	2
Turnberry	96	54·5	29·821	10	3	6	2	5	2	1	1	0	20	12	1·40	5
Corsewall	112	53·5	29·795	4	4	4	7	3	2	2	4	0	12	15	2·23	15
Mull of Galloway	325	52·9	29·558	3	1	8	5	6	4	1	2	0	0	11	1·90	47

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

JULY–SEPTEMBER 1902.

	Height.	Mean Temperature.	Barometer.	Direction of Wind.								Calm or Variable.	Gales and Storms.	Rain.		Fog.
			Mean at 32°.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
JULY.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	54·0	29·707	7	2	2	3	2	3	6	6	0	0	11	2·58	4
Isle of May	240	54·0	29·688	3	2	3	3	2	2	14	1	1	0	7	1·85	18
Bell Rock	93	54·3	29·832	2	5	1	3	1	5	12	1	1	0	4	...	11
Kinnairdhead	120	52·7	29·785	10	2	1	2	2	3	2	8	1	0	17	3·15	0
Tarbetness	175	52·5	29·719	2	1	2	2	3	4	5	10	2	0	14	1·75	0
Pentland Skerries	170	50·9	29·698	8	2	2	4	2	0	6	6	1	0	11	1·57	40
Hoy Sound, Low	55	51·8	29·832	5	2	1	4	1	4	5	8	1	0	16	3·14	0
Start Point	80	50·2	29·791	9	2	3	3	2	1	3	8	0	42	7	1·50	8
Bressay Sound	105	50·8	29·748	6	4	2	2	2	1	6	6	2	0	13	2·11	0
Holbornhead	75	51·6	29·828	6	3	1	1	5	4	8	3	0	0	25	6·10	0
Cape Wrath	400	50·1	29·477	5	2	4	3	1	6	7	3	0	0	18	3·12	78
Butt of Lewis	170	50·9	29·788	8	3	2	2	1	6	4	5	0	0	16	2·87	19
Barrahead	683	49·8	29·225	8	4	1	1	3	7	3	4	0	0	14	1·55	184
Skerryvore	150	52·9	29·804	6	2	1	1	5	4	5	6	1	0	16	...	57
Rona	222	52·1	29·694	6	6	1	1	6	5	2	4	0	0	21	3·00	22
Ardnamurchan	180	52·5	29·766	8	4	0	2	3	6	2	4	2	0	17	3·75	48
Rhinns of Islay	150	53·2	29·812	8	1	1	1	4	3	8	5	0	0	15	3·90	109
Mull of Kintyre	297	54·4	29·663	4	3	2	3	3	2	2	12	0	0	8	1·65	42
Turnberry	96	55·7	29·876	8	1	1	0	7	4	7	3	0	0	11	2·20	11
Corsewall	112	54·7	29·865	2	2	1	1	3	7	3	12	0	0	18	2·82	5
Mull of Galloway	325	54·2	29·640	5	2	1	1	1	9	6	6	0	0	9	2·72	48
AUGUST.																
St. Abb's Head	224	54·3	29·684	3	2	4	3	4	4	5	4	2	0	9	1·68	8
Isle of May	240	54·0	29·625	3	2	5	5	3	1	9	1	2	0	6	1·90	8
Bell Rock	93	54·8	29·780	4	5	3	4	3	3	7	2	0	0	8	...	8
Kinnairdhead	120	53·8	29·782	7	5	1	2	3	6	3	4	0	0	8	1·55	0
Tarbetness	175	53·3	29·661	8	3	3	1	2	4	4	5	1	0	11	1·80	3
Pentland Skerries	170	51·8	29·665	7	6	2	3	6	1	3	2	1	0	14	1·75	36
Hoy Sound, Low	55	52·5	29·777	5	4	4	5	2	3	4	4	0	0	14	2·95	2
Start Point	80	51·2	29·789	8	4	2	4	5	2	1	5	0	0	8	1·90	16
Bressay Sound	105	50·4	29·702	7	4	2	4	4	1	2	6	1	0	7	2·40	12
Holbornhead	75	52·5	29·772	4	6	1	4	4	5	2	5	0	0	16	3·20	10
Cape Wrath	400	51·5	29·417	3	3	9	1	1	7	5	2	0	0	18	1·57	52
Butt of Lewis	170	52·6	29·664	5	5	5	1	5	4	4	2	0	0	10	1·65	8
Barrahead	683	51·7	29·122	3	4	2	1	6	5	2	7	1	0	17	2·31	99
Skerryvore	150	54·2	29·707	3	2	2	5	4	3	4	8	0	0	14	...	7
Rona	222	53·8	29·615	4	5	4	0	7	5	2	4	0	0	18	3·17	9
Ardnamurchan	180	54·3	29·672	2	7	1	2	6	3	1	7	2	0	15	3·28	0
Rhinns of Islay	150	54·5	29·712	6	2	4	5	4	2	3	5	0	0	18	2·12	22
Mull of Kintyre	297	54·0	29·571	3	1	4	7	3	1	3	8	1	0	11	4·05	42
Turnberry	96	56·4	29·777	3	3	3	1	6	5	5	4	1	0	12	3·10	18
Corsewall	112	54·9	29·758	2	3	3	6	3	2	4	8	0	0	17	3·68	8
Mull of Galloway	325	54·4	29·558	4	2	3	1	5	5	4	6	1	17	11	1·68	70
SEPTEMBER.																
St. Abb's Head	224	53·8	29·781	2	3	1	5	3	7	6	3	0	31	7	1·28	14
Isle of May	240	52·8	29·758	1	3	3	5	2	1	12	3	0	8	12	1·16	67
Bell Rock	93	53·5	29·908	1	3	2	2	6	3	10	3	0	10	5	...	6
Kinnairdhead	120	51·9	29·858	4	4	2	1	6	5	2	6	0	0	11	1·70	42
Tarbetness	175	53·4	29·788	3	2	3	2	5	5	6	3	1	11	11	1·79	15
Pentland Skerries	170	52·0	29·778	5	3	1	5	6	2	6	2	0	0	10	1·87	86
Hoy Sound, Low	55	52·5	29·897	3	2	1	7	1	6	3	6	1	0	14	2·45	57
Start Point	80	51·8	29·866	4	3	2	6	5	3	2	5	0	103	12	1·60	48
Bressay	105	49·8	29·815	7	2	0	5	5	3	4	4	0	19	14	2·80	44
Holbornhead	75	52·6	29·886	4	4	1	3	6	5	4	2	1	0	18	4·20	38
Cape Wrath	400	52·6	29·525	4	2	2	4	3	10	3	2	0	0	16	2·09	97
Butt of Lewis	170	52·9	29·859	5	2	2	5	3	7	3	3	0	0	12	2·13	46
Barrahead	683	51·6	29·245	5	4	1	3	5	7	2	3	0	0	21	5·48	221
Skerryvore	150	54·4	29·825	4	2	1	6	5	5	3	4	0	84	14	...	38
Rona	222	53·6	29·725	3	5	2	4	7	5	0	3	1	0	19	4·33	26
Ardnamurchan	180	53·9	29·797	4	4	1	7	5	4	1	4	0	16	19	6·85	8
Rhinns of Islay	150	54·3	29·846	3	2	3	5	5	2	4	4	2	52	16	6·69	80
Mull of Kintyre	297	53·7	29·698	2	2	3	12	2	0	1	7	1	25	12	4·05	65
Turnberry	96	55·0	29·919	1	5	1	5	8	3	2	4	1	14	14	3·20	26
Corsewall	112	54·1	29·898	2	4	2	6	8	2	3	3	0	12	18	5·05	50
Mull of Galloway	325	54·1	29·681	4	3	2	3	5	7	3	3	0	18	12	2·97	65

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

OCTOBER–DECEMBER 1902.

	HEIGHT.	Mean Temperature.	BAROMETER. Mean at 32°	DIRECTION OF WIND. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm or Variable.	Gales and Storms.	RAIN. Days.	RAIN. Amount.	Fog.
OCTOBER.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	49·0	29·688	5	6	3	1	3	3	5	3	2	41	8	1·38	0
Isle of May	240	48·5	29·662	1	4	6	2	2	5	10	1	0	8	5	0·85	0
Bell Rock	93	49·2	29·815	2	5	6	1	2	6	8	1	0	0	6	...	0
Kinnairdhead	120	47·9	29·745	3	3	2	4	2	7	5	5	0	23	8	1·25	0
Tarbetness	175	46·8	29·669	1	2	3	3	4	3	8	6	1	22	10	3·27	0
Pentland Skerries	170	48·9	29·650	5	2	3	2	6	5	5	2	1	19	9	1·20	0
Hoy Sound, Low	55	49·1	29·793	5	2	2	6	5	7	2	2	0	10	18	3·38	0
Start Point	80	49·1	29·742	4	1	3	4	6	6	3	4	0	37	17	2·90	3
Bressay Sound	105	47·8	29·705	4	3	2	4	3	7	5	2	1	0	17	3·30	0
Holbornhead	75	48·2	29·770	4	2	1	3	7	9	3	2	0	0	11	2·10	0
Cape Wrath	400	48·0	29·405	1	2	5	2	4	8	6	3	0	76	14	2·79	0
Butt of Lewis	170	49·2	29·650	4	2	4	4	5	9	2	1	0	45	19	5·98	0
Barrahead	688	48·3	29·154	1	4	2	5	5	8	3	3	0	0	19	2·21	76
Skerryvore	150	50·7	29·749	3	2	5	4	3	7	3	3	1	76	16	...	8
Rona	222	49·1	29·618	0	3	4	2	10	7	1	3	1	48	17	3·02	0
Ardnamurchan	180	50·2	29·709	2	4	3	7	5	6	2	2	0	47	14	4·34	0
Rhinns of Islay	150	51·0	29·765	0	2	9	2	2	5	5	6	0	93	18	2·07	7
Mull of Kintyre	297	49·6	29·610	1	4	6	5	3	5	2	5	0	68	10	2·15	0
Turnberry	96	49·9	29·832	2	6	5	2	6	5	1	4	0	51	14	2·30	0
Corsewall	112	50·8	29·820	3	5	5	2	4	6	4	2	0	60	14	1·54	0
Mull of Galloway	325	50·1	29·597	2	1	9	1	2	9	4	3	0	82	14	0·94	0
NOVEMBER.																
St. Abb's Head	224	44·6	29·611	0	1	11	7	3	2	5	1	0	0	11	1·79	14
Isle of May	240	46·0	29·592	0	0	1	11	9	2	5	1	1	0	5	1·50	6
Bell Rock	93	46·9	29·748	0	1	1	12	7	5	3	1	0	0	7	...	0
Kinnairdhead	120	46·1	29·694	0	0	0	5	14	7	2	2	0	101	11	1·10	19
Tarbetness	175	46·0	29·583	0	0	7	10	5	3	5	0	0	0	11	1·00	0
Pentland Skerries	170	47·1	29·599	0	0	2	15	6	2	3	2	0	85	18	1·09	0
Hoy Sound, Low	55	46·7	29·726	0	0	0	16	7	4	3	0	0	42	16	2·30	0
Start Point	80	47·6	29·710	0	0	4	15	5	2	2	2	0	172	14	2·70	0
Bressay Sound	105	46·2	29·699	0	0	0	12	10	3	2	3	0	65	14	2·80	0
Holbornhead	75	46·6	29·678	0	0	2	12	8	5	1	2	0	18	11	1·20	0
Cape Wrath	400	45·7	29·288	1	0	6	11	4	5	1	2	0	59	11	1·53	0
Butt of Lewis	170	48·6	29·705	1	0	2	16	5	3	2	1	0	9	16	2·90	0
Barrahead	688	45·2	28·987	0	1	1	10	10	4	2	2	0	7	22	3·76	49
Skerryvore	150	47·4	29·536	1	0	2	10	9	2	3	3	0	262	16	...	0
Rona	222	47·3	29·478	0	0	6	7	12	2	1	2	0	26	17	1·95	0
Ardnamurchan	180	47·3	29·522	0	1	3	12	5	6	1	2	0	57	15	4·87	0
Rhinns of Islay	150	47·8	29·572	1	0	5	10	5	5	2	2	0	77	20	4·18	12
Mull of Kintyre	297	46·0	29·433	0	1	4	11	8	2	2	2	0	0	16	5·70	4
Turnberry	96	46·9	29·666	0	1	10	8	6	2	2	1	0	6	16	2·20	0
Corsewall	112	47·2	29·644	0	1	5	11	5	4	3	1	0	17	22	5·29	0
Mull of Galloway	325	46·9	29·411	1	0	3	10	8	5	3	0	0	56	17	3·70	9
DECEMBER.																
St. Abb's Head	224	40 5	29·671	2	2	5	1	4	8	6	3	0	0	14	4·25	89
Isle of May	240	40·6	29·642	1	1	2	4	6	2	13	2	0	0	10	2·26	88
Bell Rock	93	41·5	29·796	2	1	3	7	2	7	7	1	1	0	8	...	65
Kinnairdhead	120	40·1	29·718	0	1	1	5	5	5	8	6	0	0	17	...	92
Tarbetness	175	40·3	29·613	1	1	4	6	4	3	9	3	0	0	15	4·15	45
Pentland Skerries	170	42·0	29·604	1	2	3	6	6	4	4	5	0	10	16	3·14	89
Hoy Sound, Low	55	41·4	29·709	1	2	0	8	7	6	5	2	0	0	17	3·09	95
Start Point	80	42·0	29·695	1	3	2	7	5	5	5	3	0	0	20	4·12	146
Bressay Sound	105	41·7	29·667	1	1	2	5	8	4	5	5	0	0	18	6·00	106
Holbornhead	75	40·3	29·704	0	2	2	6	6	8	4	2	1	18	19	5·50	83
Cape Wrath	400	40·6	29·381	1	2	5	3	2	5	8	5	0	21	19	2·47	93
Butt of Lewis	170	42·0	29·577	1	2	1	7	6	4	6	4	0	6	22	4·98	88
Barrahead	688	41·6	29·084	2	1	1	6	6	6	8	1	0	92	17	2·81	55
Skerryvore	150	43·4	29·690	2	0	0	8	5	5	7	4	0	178	13	...	5
Rona	222	41·9	29·580	1	1	3	7	7	2	6	4	0	0	18	3·43	92
Ardnamurchan	180	42·8	29·646	2	3	3	8	3	4	5	3	0	0	20	4·83	88
Rhinns of Islay	150	44·0	29·781	2	1	4	5	3	4	6	5	1	17	17	2·76	119
Mull of Kintyre	297	42·3	29·595	0	1	1	8	6	5	2	8	0	28	10	2·75	16
Turnberry	96	43·0	29·825	2	6	3	2	5	7	4	2	0	1	15	2·76	150
Corsewall	112	42·6	29·816	2	2	3	6	3	5	5	5	0	8	18	4·23	104
Mull of Galloway	325	41·1	29·592	2	1	3	5	3	8	3	6	0	7	16	2·48	48

(2) RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

January–March 1903.

	Height.	Mean Temperature.	Barometer. Mean at 32°.	Direction of Wind. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm or Variable.	Gales and Storms.	Rain. Days.	Rain. Amount.	Fog.
JANUARY.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	38·1	29·540	2	1	1	5	7	8	5	2	0	69	9	2·40	3
Isle of May	240	38·8	29·506	2	2	1	5	6	3	9	2	1	111	10	3·30	30
Bell Rock	93	39·3	29·668	3	1	2	4	4	5	10	2	0	38	10	...	0
Kinnairdhead	120	38·8	29·578	2	2	1	2	6	8	6	4	0	35	16	2·95	13
Tarbetness	175	37·4	29·478	1	2	2	3	9	7	3	3	1	32	10	2·95	0
Pentland Skerries	170	39·5	29·475	2	3	1	2	10	5	6	2	0	5	15	2·95	0
Hoy Sound, Low	55	39·4	29·594	2	1	1	4	8	8	5	2	0	148	18	3·78	0
Start Point	80	39·9	29·558	3	1	1	3	9	7	5	2	0	219	17	3·14	0
Bressay Sound	105	41·0	29·482	2	2	1	0	2	7	8	8	1	104	19	5·50	0
Holbornhead	75	38·5	29·575	2	2	1	3	9	7	6	1	0	0	14	3·40	0
Cape Wrath	400	39·0	29·189	3	2	1	4	4	7	7	3	0	179	18	2·40	0
Butt of Lewis	170	40·4	29·480	2	3	1	3	6	8	4	4	0	102	19	4·08	1
Barrahead	683	39·0	28·907	2	3	2	3	10	6	4	1	0	47	20	2·90	81
Skerryvore	150	41·2	29·548	2	3	1	5	8	6	4	2	0	244	18	...	0
Rona	222	40·1	29·419	1	3	3	4	10	5	4	1	0	58	21	4·22	0
Ardnamurchan	180	40·5	29·499	3	2	2	9	3	7	4	1	0	200	20	6·08	0
Rhinns of Islay	150	41·2	29·578	1	3	1	4	6	8	4	2	2	81	20	4·98	8
Mull of Kintyre	297	39·9	29·452	3	1	2	11	4	6	2	2	0	9	14	3·62	69
Turnberry	96	39·9	29·677	1	2	5	6	4	9	3	1	0	183	17	3·85	0
Corsewall	112	40·1	29·664	1	1	3	9	5	6	5	1	0	89	19	4·56	26
Mull of Galloway	325	39·7	29·491	2	1	2	5	6	10	4	1	0	49	15	2·43	41
FEBRUARY.																
St. Abb's Head	224	42·5	29·561	2	0	0	1	5	9	10	1	0	52	8	3·44	7
Isle of May	240	41·9	29·511	1	1	1	1	1	6	14	3	0	40	8	2·83	12
Bell Rock	93	42·2	29·651	1	1	1	1	3	5	16	0	0	7	5	...	0
Kinnairdhead	120	41·5	29·581	3	1	1	1	2	8	6	6	0	70	18	2·36	0
Tarbetness	175	41·9	29·451	1	0	1	1	8	8	5	4	0	48	13	1·35	0
Pentland Skerries	170	41·6	29·390	2	1	1	1	6	7	7	3	0	40	11	3·33	4
Hoy Sound, Low	55	41·9	29·503	2	1	2	2	4	10	5	2	0	78	19	5·21	0
Start Point	80	41·5	29·460	3	1	1	1	5	6	8	3	0	120	15	4·59	0
Bressay Sound	105	41·2	29·390	3	1	1	1	5	7	6	4	0	85	19	6·80	0
Holbornhead	75	42·0	29·492	2	1	1	2	4	10	7	1	0	54	18	6·40	0
Cape Wrath	400	41·9	29·133	3	0	2	1	1	10	7	4	0	175	22	3·82	15
Butt of Lewis	170	43·0	29·389	2	1	1	1	8	7	4	4	0	68	25	6·24	1
Barrahead	683	41·7	28·989	2	1	1	0	8	6	8	2	0	54	18	2·91	117
Skerryvore	150	43·7	29·576	1	1	1	2	6	5	9	3	0	164	21	...	0
Rona	222	43·3	29·421	1	1	1	2	8	7	5	3	0	95	24	4·35	0
Ardnamurchan	180	43·9	29·506	3	0	0	3	5	9	5	2	1	70	21	7·16	0
Rhinns of Islay	150	44·5	29·622	1	0	0	1	6	6	7	6	1	135	17	3·48	0
Mull of Kintyre	297	43·8	29·499	2	1	0	0	12	6	3	4	0	58	12	5·28	18
Turnberry	96	44·1	29·726	1	0	0	1	11	7	6	2	0	259	20	4·45	2
Corsewall	112	44·5	29·739	1	0	0	1	11	7	4	4	0	109	20	2·95	0
Mull of Galloway	325	43·4	29·548	1	0	1	1	2	15	6	2	0	61	9	1·64	14
MARCH.																
St. Abb's Head	224	41·6	29·312	1	0	2	4	5	11	5	3	0	21	9	1·67	0
Isle of May	240	41·0	29·281	1	1	0	2	4	8	12	2	1	0	11	1·35	6
Bell Rock	93	41·4	29·437	1	1	1	1	7	5	12	3	0	0	7	...	0
Kinnairdhead	120	41·6	29·335	2	0	1	0	5	12	9	2	0	40	11	0·68	0
Tarbetness	175	40·6	29·280	1	0	2	4	10	10	2	2	0	24	18	6·40	0
Pentland Skerries	170	41·0	29·218	1	0	1	4	10	12	3	0	0	12	11	1·08	0
Hoy Sound, Low	55	41·1	29·324	1	1	1	3	8	12	3	2	0	31	17	3·40	0
Start Point	80	41·2	29·295	1	1	1	4	7	9	7	1	0	41	17	2·60	0
Bressay Sound	105	42·2	29·236	1	0	0	3	9	12	4	2	0	31	25	7·00	0
Holbornhead	75	40·9	29·296	1	1	1	4	13	8	3	0	0	0	10	1·70	0
Cape Wrath	400	40·0	28·925	2	0	0	4	1	7	14	3	0	86	28	4·03	0
Butt of Lewis	170	41·4	29·148	1	1	1	4	8	7	6	3	0	28	29	7·11	0
Barrahead	683	40·5	28·657	1	0	0	2	9	10	8	1	0	5	27	2·52	14
Skerryvore	150	42·7	29·296	2	0	0	3	7	8	8	3	0	168	24	...	0
Rona	222	41·4	29·175	1	1	1	2	12	7	6	1	0	96	26	3·77	0
Ardnamurchan	180	42·3	29·259	2	1	0	5	8	11	3	1	0	15	25	5·52	0
Rhinns of Islay	150	42·4	29·350	1	1	1	3	6	8	7	4	0	38	24	4·53	0
Mull of Kintyre	297	42·1	29·286	0	1	1	3	14	4	5	3	0	27	20	4·51	0
Turnberry	96	43·3	29·471	1	1	2	2	8	13	2	2	0	151	25	7·50	0
Corsewall	112	42·5	29·458	1	2	1	1	10	9	5	2	0	76	29	4·81	0
Mull of Galloway	325	42·1	29·231	1	0	1	1	7	11	7	2	1	34	15	3·00	1

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

April–June 1903.

	Height.	Mean Temperature.	Barometer.	Direction of Wind.								Calm or Variable.	Gales and Storms.	Rain.		Fog.
			Mean at 32°.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
APRIL.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	41·0	29·585	6	5	4	2	2	2	8	5	1	16	6	0·57	26
Isle of May	240	40·9	29·568	6	8	8	8	2	0	6	5	2	0	8	0·75	84
Bell Rock	98	41·3	29·725	5	8	4	3	2	1	7	5	0	0	1	...	29
Kinnairdhead	120	40·8	29·664	9	1	1	4	4	2	2	7	0	155	23	2·98	48
Tarbetness	175	40·1	29·601	2	2	5	1	2	8	5	9	1	0	20	5·00	15
Pentland Skerries	170	40·4	29·601	8	1	3	7	1	1	4	4	1	0	18	2·77	41
Hoy Sound, Low	55	40·7	29·739	5	2	2	9	1	3	3	4	1	0	18	2·88	48
Start Point	80	40·2	29·687	6	2	7	2	1	2	4	6	0	84	17	2·75	48
Bressay Sound	105	40·7	29·628	8	2	2	6	1	2	8	6	0	21	20	8·40	0
Holbornhead	75	41·8	29·711	8	1	2	6	8	4	4	2	0	0	26	3·60	26
Cape Wrath	400	41·1	29·368	6	2	1	8	1	8	4	5	0	16	19	1·45	35
Butt of Lewis	170	41·9	29·681	5	1	4	4	8	5	4	4	0	21	16	2·55	9
Barrahead	688	41·1	29·124	4	2	3	8	5	4	4	5	0	0	17	1·02	78
Skerryvore	150	43·0	29·706	5	8	3	4	8	4	8	5	0	41	10	...	41
Rona	222	42·3	29·587	5	8	5	2	6	2	3	4	0	0	16	1·57	0
Ardnamurchan	180	43·2	29·658	7	3	2	2	6	2	1	4	8	0	15	2·16	21
Rhinns of Islay	150	43·1	29·712	8	5	2	8	2	2	2	5	6	23	12	1·10	18
Mull of Kintyre	297	43·2	29·541	2	2	2	7	1	2	7	7	0	0	11	2·46	82
Turnberry	96	43·5	29·764	2	8	1	5	5	8	3	8	0	62	10	1·40	3
Corsewall	112	43·2	29·788	5	3	8	2	4	8	1	9	0	0	16	1·52	1
Mull of Galloway	325	42·6	29·498	8	1	8	8	2	4	8	5	1	0	9	1·18	5
MAY.																
St. Abb's Head	224	47·5	29·645	5	4	5	2	4	6	2	1	2	0	8	1·04	126
Isle of May	240	46·9	29·625	0	7	8	4	4	2	5	0	1	0	8	0·27	128
Bell Rock	93	46·3	29·790	2	10	6	8	2	4	4	0	0	0	2	...	97
Kinnairdhead	120	47·4	29·746	6	4	2	4	5	8	8	8	1	0	14	2·72	63
Tarbetness	175	47·4	29·682	5	7	7	2	2	4	8	1	0	0	6	2·80	52
Pentland Skerries	170	46·0	29·689	4	5	4	6	8	2	4	2	1	0	9	0·98	82
Hoy Sound, Low	55	46·6	29·811	3	4	2	8	0	8	6	8	2	0	7	1·23	93
Start Point	80	45·8	29·782	6	5	5	4	8	8	8	2	0	80	6	0·85	68
Bressay Sound	105	45·9	29·784	4	6	2	5	8	4	8	2	2	0	13	1·40	28
Holbornhead	75	47·1	29·785	6	4	5	3	4	8	4	1	1	0	9	1·60	51
Cape Wrath	400	45·8	29·483	2	6	8	2	0	5	7	1	0	0	10	0·58	80
Butt of Lewis	170	46·5	29·680	5	5	6	1	3	7	3	1	0	54	15	0·96	49
Barrahead	688	47·0	29·128	4	8	3	3	4	5	8	1	0	0	10	1·30	97
Skerryvore	150	48·4	29·708	3	6	5	3	8	3	5	8	0	0	8	...	28
Rona	222	48·4	29·620	6	7	5	1	4	5	2	0	1	0	12	1·59	62
Ardnamurchan	180	48·7	29·672	6	8	3	2	3	6	1	1	1	0	8	2·88	20
Rhinns of Islay	150	49·3	29·709	5	4	6	4	2	2	2	2	4	0	10	2·19	27
Mull of Kintyre	297	48·6	29·548	4	5	6	4	5	2	2	2	1	0	9	3·62	28
Turnberry	96	49·5	29·765	2	11	4	1	4	4	2	3	0	0	18	4·30	16
Corsewall	112	49·4	29·746	7	3	4	5	8	8	8	8	0	0	17	3·05	17
Mull of Galloway	825	49·0	29·519	4	2	10	8	2	7	1	1	1	0	13	2·25	38
JUNE.																
St. Abb's Head	224	51·6	29·861	6	10	1	5	4	1	1	1	1	0	8	1·49	6
Isle of May	240	51·9	29·846	0	5	9	5	4	1	4	0	2	0	7	1·51	41
Bell Rock	98	50·9	30·002	3	8	5	2	5	3	2	2	0	0	6	...	18
Kinnairdhead	120	51·9	29·974	9	7	1	2	5	1	2	8	0	0	9	0·99	54
Tarbetness	175	51·2	29·915	2	7	5	4	2	2	8	5	0	0	8	...	25
Pentland Skerries	170	49·5	29·915	4	8	2	5	2	1	6	2	0	0	7	0·68	80
Hoy Sound, Low	55	50·7	30·039	5	5	1	6	0	2	7	4	0	0	8	0·90	89
Start Point	80	49·2	30·010	7	8	5	3	1	1	7	3	0	0	5	0·96	78
Bressay Sound	105	49·1	29·961	4	7	2	4	2	1	5	4	1	0	10	1·60	8
Holbornhead	75	51·1	30·019	9	8	2	4	1	8	5	3	0	0	5	1·50	55
Cape Wrath	400	50·4	29·661	2	6	4	4	1	6	5	2	0	0	8	0·95	55
Butt of Lewis	170	49·4	29·917	8	7	8	5	1	6	8	2	0	0	12	1·44	42
Barrahead	688	50·1	29·840	4	7	1	8	6	8	2	8	1	0	4	1·88	176
Skerryvore	150	52·1	29·931	7	6	1	6	2	2	4	1	1	0	8	...	48
Rona	222	51·9	29·850	6	9	8	2	7	1	0	2	0	0	8	1·28	7
Ardnamurchan	180	52·5	29·889	7	10	1	8	4	1	1	0	8	0	6	1·44	21
Rhinns of Islay	150	52·6	29·928	5	6	8	6	8	1	2	2	2	0	7	2·68	59
Mull of Kintyre	297	52·5	29·763	2	6	6	9	2	1	1	8	0	12	7	1·75	75
Turnberry	96	54·2	29·979	7	5	8	1	6	5	2	1	0	0	10	2·10	8
Corsewall	112	53·1	29·958	6	5	2	4	5	1	2	5	0	0	11	1·79	24
Mull of Galloway	825	53·0	29·727	6	5	8	8	5	8	1	2	2	0	7	1·70	70

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

July–September 1903.

	Height.	Mean Temperature.	Barometer.	Direction of Wind.								Calm or Variable.	Gales and Storms.	Rain.		Fog.
			Mean at 32°.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
JULY.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	55·8	29·608	6	3	2	5	4	2	6	3	0	35	16	5·87	37
Isle of May	240	55·8	29·588	1	4	3	5	4	1	11	1	1	0	11	3·76	41
Bell Rock	93	55·0	29·752	1	5	3	6	5	4	5	2	0	0	12	...	3
Kinnairdhead	120	54·1	29·699	7	3	2	4	3	2	3	7	0	29	18	5·46	47
Tarbetness	175	54·1	29·652	2	3	6	6	0	1	8	3	2	0	14	...	14
Pentland Skerries	170	52·0	29·658	3	6	2	7	0	2	6	4	1	18	12	3·82	62
Hoy Sound, Low	55	52·4	29·780	3	3	3	7	1	1	6	7	0	29	10	3·80	78
Start Point	80	52·5	29·744	4	4	5	3	2	3	4	6	0	52	8	2·93	87
Bressay Sound	105	51·4	29·689	4	6	3	5	3	1	5	4	0	0	15	5·00	71
Holbornhead	75	53·1	29·760	4	5	4	2	2	3	5	3	3	0	11	3·50	14
Cape Wrath	400	51·7	29·390	3	2	8	5	0	6	4	3	0	22	15	4·07	79
Butt of Lewis	170	52·4	29·656	3	3	7	6	1	5	3	3	0	0	12	2·05	10
Barrahead	683	52·1	29·113	3	1	4	3	8	6	2	4	0	0	12	3·81	180
Skerryvore	150	54·4	29·695	2	1	1	6	5	7	4	5	0	49	11	...	48
Rona	222	54·4	29·598	6	4	5	1	7	3	2	2	1	0	18	4·41	0
Ardnamurchan	180	55·3	29·649	3	3	1	2	7	7	4	3	1	0	19	4·09	47
Rhinns of Islay	150	54·9	29·697	3	1	2	4	4	3	5	6	3	27	15	4·09	34
Mull of Kintyre	297	55·1	29·533	2	2	3	7	4	1	3	7	2	0	9	1·28	33
Turnberry	96	56·5	29·752	5	1	3	0	8	6	5	2	1	0	15	4·35	0
Corsewall	112	56·0	29·746	1	4	1	3	8	4	2	8	0	24	18	3·81	14
Mull of Galloway	325	56·3	29·513	2	1	2	1	4	10	5	6	0	21	8	3·15	59
AUGUST.																
St. Abb's Head	224	55·4	29·445	1	1	1	4	3	8	10	3	0	21	14	2·94	13
Isle of May	240	54·9	29·427	1	1	1	2	2	2	20	2	0	0	13	3·10	23
Bell Rock	93	54·6	29·573	1	2	1	3	4	5	14	1	0	0	10	...	11
Kinnairdhead	120	54·0	29·514	4	1	1	2	6	4	4	9	0	16	16	2·61	11
Tarbetness	175	53·8	29·438	1	2	2	4	4	5	5	7	1	0	18	...	0
Pentland Skerries	170	52·5	29·426	1	2	3	4	4	2	9	5	1	0	13	3·79	30
Hoy Sound, Low	55	53·5	29·551	1	1	0	4	3	4	10	6	2	14	13	4·60	17
Start Point	80	52·9	29·517	2	2	2	5	3	3	10	4	0	27	12	2·90	33
Bressay Sound	105	52·4	29·474	3	3	0	4	5	6	4	4	2	5	14	4·10	14
Holbornhead	75	53·6	29·534	2	1	1	3	3	3	12	3	3	0	16	4·65	14
Cape Wrath	400	52·0	29·172	1	1	4	1	2	7	9	6	0	18	20	5·83	29
Butt of Lewis	170	52·9	29·421	1	1	3	3	5	8	5	5	0	16	24	6·93	2
Barrahead	683	52·3	28·921	2	1	0	2	6	7	10	3	0	0	19	4·12	119
Skerryvore	150	54·6	29·501	2	1	1	3	3	7	8	6	0	57	15	...	7
Rona	222	53·8	29·897	5	1	1	3	8	5	6	2	0	36	21	6·25	6
Ardnamurchan	180	54·7	29·472	2	4	1	1	5	7	7	4	0	0	19	5·57	0
Rhinns of Islay	150	55·8	29·530	2	1	2	2	3	5	6	9	1	26	18	5·90	6
Mull of Kintyre	297	55·1	29·390	1	0	2	8	6	2	7	5	0	12	16	6·10	4
Turnberry	96	56·0	29·604	1	1	1	1	8	8	8	3	0	54	18	3·85	0
Corsewall	112	56·2	29·605	1	2	1	3	8	5	5	5	1	25	28	4·79	0
Mull of Galloway	325	56·4	29·375	1	1	1	1	3	12	8	3	1	9	17	3·43	12
SEPTEMBER.																
St. Abb's Head	224	52·5	29·733	3	1	4	9	4	3	1	4	1	0	10	1·76	84
Isle of May	240	52·4	29·710	2	4	2	4	8	2	5	2	1	0	9	1·53	104
Bell Rock	93	52·2	29·880	2	2	3	6	6	6	3	2	0	0	5	...	73
Kinnairdhead	120	52·0	29·836	2	1	0	5	8	8	3	3	0	0	14	3·00	103
Tarbetness	175	52·3	29·741	3	0	5	6	7	3	4	2	0	5	10	1·13	43
Pentland Skerries	170	51·8	29·752	4	1	4	6	9	3	1	1	1	0	16	2·31	128
Hoy Sound, Low	55	52·4	29·882	3	0	4	15	1	3	2	2	0	8	16	3·60	53
Start Point	80	51·8	29·861	4	1	6	8	6	3	1	1	0	28	12	2·58	129
Bressay Sound	105	51·5	29·833	2	2	2	7	9	5	1	2	0	0	15	4·30	134
Holbornhead	75	52·8	29·847	3	1	1	10	8	3	2	1	1	0	13	2·55	30
Cape Wrath	400	52·7	29·475	2	3	5	5	4	5	4	2	0	26	12	1·66	0
Butt of Lewis	170	53·1	29·704	3	0	5	9	6	3	2	2	0	13	14	2·74	0
Barrahead	683	51·4	29·139	3	0	3	5	10	0	5	2	2	0	14	1·46	25
Skerryvore	150	54·2	29·744	1	1	1	9	9	3	4	2	0	17	11	...	0
Rona	222	54·1	29·647	3	1	5	3	14	1	2	1	0	0	17	3·06	0
Ardnamurchan	180	54·8	29·706	3	1	6	8	6	3	2	1	0	8	14	3·25	0
Rhinns of Islay	150	54·6	29·747	2	2	4	6	10	2	3	1	0	244	17	3·10	0
Mull of Kintyre	297	53·3	29·615	0	1	5	12	6	2	1	3	0	0	18	3·45	2
Turnberry	96	54·6	29·887	2	1	6	3	9	5	1	2	1	5	15	2·80	15
Corsewall	112	54·5	29·817	2	1	3	10	8	2	1	3	0	0	15	2·88	8
Mull of Galloway	325	54·3	29·598	3	1	4	4	6	9	1	2	0	0	17	3·27	7

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

OCTOBER–DECEMBER 1903.

	Height.	Mean Temperature.	Barometer. Mean at 32°.	Direction of Wind. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm or Variable.	Gales and Storms.	Rain. Days.	Rain. Amount.	Fog.
OCTOBER.	Feet.	°	Inches.										Hrs.		Inches	Hrs.
St. Abb's Head	224	48·2	29·240	3	1	5	5	2	9	4	2	0	18	17	6·58	2
Isle of May	240	48·6	29·198	3	1	2	2	6	6	9	2	0	0	16	4·15	6
Bell Rock	93	49·1	29·364	1	5	7	4	2	7	3	1	1	0	9	...	0
Kinnairdhead	120	48·4	29·310	1	4	1	5	8	7	3	2	0	41	22	3·95	0
Tarbetness	175	47·5	29·224	3	1	4	5	8	2	3	4	1	50	18	2·47	0
Pentland Skerries	170	47·6	29·248	2	5	2	9	5	4	1	3	0	43	16	4·10	0
Hoy Sound, Low	55	47·9	29·367	3	5	3	9	3	5	1	2	0	89	20	6·60	0
Start Point	80	47·9	29·341	4	4	6	6	5	2	2	2	0	117	12	8·70	0
Bressay Sound	105	47·2	29·331	4	5	3	7	8	1	1	1	1	50	17	7·70	0
Holbornhead	75	47·4	29·340	2	3	4	7	4	6	2	1	2	0	16	7·22	2
Cape Wrath	400	46·3	28·942	3	1	10	5	3	6	1	2	0	16	18	6·44	0
Butt of Lewis	170	48·0	29·202	4	1	8	7	4	3	2	2	0	13	19	8·89	0
Barrahead	683	47·1	28·653	3	3	4	3	7	6	3	2	0	0	23	6·15	53
Skerryvore	150	49·5	29·239	1	2	2	7	5	6	4	4	0	29	20	...	1
Rona	222	48·4	29·154	3	3	8	4	9	1	2	1	0	11	24	6·63	0
Ardnamurchan	180	49·4	29·200	2	2	3	4	9	7	1	3	0	22	27	8·16	0
Rhinns of Islay	150	50·2	29·243	3	2	1	3	6	7	4	3	2	56	25	7·07	0
Mull of Kintyre	297	48·9	29·112	1	1	3	7	5	7	3	4	0	27	26	10·50	0
Turnberry	96	49·7	29·343	2	3	2	3	7	9	5	0	0	119	28	7·65	0
Corsewall	112	50·2	29·398	1	2	1	7	7	6	5	2	0	8	27	7·93	0
Mull of Galloway	325	50·0	29·076	3	1	1	1	7	11	5	1	1	23	20	5·36	0
NOVEMBER.																
St. Abb's Head	224	43·5	29·665	4	1	1	1	3	9	7	4	0	33	10	2·45	5
Isle of May	240	43·8	29·645	5	2	0	1	2	2	15	3	0	0	5	0·98	55
Bell Rock	93	44·0	29·802	5	1	1	0	2	3	16	2	0	0	2	...	6
Kinnairdhead	120	42·2	29·708	6	1	1	0	2	4	9	7	0	47	21	3·30	0
Tarbetness	175	41·6	29·650	5	1	1	1	3	4	7	8	0	30	18	1·92	0
Pentland Skerries	170	43·5	29·621	7	1	1	1	3	8	3	6	0	23	21	3 47	0
Hoy Sound, Low	55	43·5	29·738	5	2	0	2	3	6	7	5	0	62	18	4·78	0
Start Point	80	43·5	29·699	5	1	1	2	3	6	8	4	0	112	15	3·83	0
Bressay Sound	105	42·8	29·621	6	2	1	1	4	4	5	7	0	0	20	4·00	0
Holbornhead	75	42·5	29·726	2	5	1	1	3	8	6	4	0	78	22	7·22	0
Cape Wrath	400	42·7	29·378	4	1	1	3	1	6	4	10	0	134	23	4·66	2
Butt of Lewis	170	43·6	29·652	6	1	1	1	3	7	6	5	0	20	24	5·50	0
Barrahead	683	43·4	29·193	3	2	0	0	5	7	11	2	0	0	22	3·47	69
Skerryvore	150	46·0	29 793	4	3	0	1	3	4	7	8	0	46	19	...	10
Rona	222	44·3	29·689	4	2	2	1	8	4	4	5	0	24	23	3·28	0
Ardnamurchan	180	45·5	29·730	3	3	1	1	7	4	5	6	0	18	22	3·76	3
Rhinns of Islay	150	46·6	29·803	4	4	1	1	3	4	4	7	2	65	22	3·45	2
Mull of Kintyre	297	45·9	29·653	2	5	0	3	5	2	2	10	1	36	15	2·50	6
Turnberry	96	46·0	29·865	3	3	1	3	5	4	7	3	1	160	20	3·35	21
Corsewall	112	46·3	29·855	2	3	0	6	3	3	6	7	0	30	19	3·22	17
Mull of Galloway	325	45·1	29·624	3	2	1	1	3	7	7	5	1	40	15	2·69	2
DECEMBER.																
St. Abb's Head	224	38·4	29·460	1	2	4	10	6	4	3	1	0	0	13	1·52	3
Isle of May	240	38·8	29·441	2	2	1	4	10	4	7	1	0	0	13	1·66	28
Bell Rock	93	40·7	29·598	2	1	1	6	9	5	6	1	0	6	4	...	12
Kinnairdhead	120	38·6	29·560	1	1	1	2	9	11	2	3	1	0	18	1·63	3
Tarbetness	175	37·7	29·485	3	0	1	9	6	4	6	1	1	0	7	0·49	44
Pentland Skerries	170	41·0	29·474	3	0	1	8	7	4	6	1	1	9	10	1·80	0
Hoy Sound, Low	55	39·8	29·581	1	1	0	13	9	5	1	1	0	6	15	4·40	0
Start Point	80	42·3	29·562	1	1	3	12	8	4	1	1	0	72	10	2·25	0
Bressay Sound	105	42·2	29·558	1	1	1	5	13	5	5	0	0	48	17	3·50	0
Holbornhead	75	38·7	29·521	0	1	3	7	10	6	1	3	0	7	11	1·61	2
Cape Wrath	400	39·4	29·157	1	1	2	9	6	8	1	3	0	0	16	1·96	0
Butt of Lewis	170	40·5	29·411	2	1	1	8	10	6	2	1	0	0	15	2·18	0
Barrahead	683	40·1	28·837	1	3	1	4	13	4	4	1	0	10	16	2·82	10
Skerryvore	150	42·8	29·455	1	3	2	8	8	3	3	3	0	0	12	...	0
Rona	222	40·5	29·377	0	2	6	5	13	3	2	0	0	0	14	2·66	0
Ardnamurchan	180	41·2	29·403	1	3	3	15	6	1	1	1	0	0	15	3·44	8
Rhinns of Islay	150	42·5	29·464	1	3	3	8	7	4	2	2	1	7	15	3·28	0
Mull of Kintyre	297	40·7	29·315	1	4	2	10	8	2	3	1	0	7	12	3·04	6
Turnberry	96	40·6	29·561	1	1	10	5	9	3	1	1	0	43	14	3·25	8
Corsewall	112	41·3	29·547	1	3	7	7	5	4	3	1	0	48	16	2·24	2
Mull of Galloway	325	39·9	29·309	3	1	4	7	7	4	5	0	0	46	18	2·67	0

8.

REPORT ON THE METEOROLOGY OF SCOTLAND during 1902, and of OBSERVERS' NOTES ON THE STATE OF AGRICULTURE, PUBLIC HEALTH, ETC. By ALEXANDER BUCHAN, Meteorological Secretary.

JANUARY 1902.

The month was characterised by a high mean barometric pressure, a mean temperature in most districts slightly above the average, and a rainfall deficient in most districts. [*See* Notes on the Numerical Returns of Scottish Meteorology, p. 84 of this *Journal*.]

The maximum *Black-bulb* in the sun was 97°·0, at Ochtertyre, on the 23rd; the minimum on grass being −3°·0, at Braemar, on the 27th.

Underground Thermometers, at depths of 3, 12, and 22 inches, gave, on the mean of the month, the following results:—Dunrobin, 38·0, 39·3, 39·7; Haddo House, 35·1, 35·2, 36·2; Arbroath, 36·0, 36·8, 38·0; Poltalloch, 40·0, 40·4, 39·3; Paisley, 39·7, 39·9, 41·0; Corstorphine, 37·5, 38·3, 38·8; Smeaton, 36·9, 37·5, —; Marchmont, 37·1, 37·8, 39·3. At Ochtertyre, at depths of 3, 12, 22, 36, and 48 inches, the means were respectively 37·8, 39·2, 40·2, 41·2, and 42·0.

Wind.—As regards direction, winds from W were 5 days, from NW 1 day, and from N 1 day above their average frequency; winds from E and S being proportionately deficient. Stormy weather was experienced in northern districts from 3rd to 10th; in east and north, on 12th and 15th; and in all districts, on 25th and 26th. At Cape Wrath a gale was reported continuously from the morning of the 3rd to the morning of the 11th.

Ground-Swells.—At Stourhead, on 24th.

Fog.—Inchkeith reported a good deal on 12th and various days thereafter, whilst the 21st was a very foggy day in SE and NW. Otherwise, occurrences were infrequent and of a sporadic character.

Halos.—*Solar Halos*, at Lamlash, on 9th; at Lamlash, Rothesay, Leith, and Trinity, on 11th; at Rothesay, on 14th and 16th; and at Leith and Trinity, on 22nd. *Lunar Halos*, at Fort William, on 13th; at Lamlash and Peterhead, on 14th; at Peterhead, on 15th; at Peterhead and Lednathie, on 17th; at Peterhead, Lednathie, Corstorphine, Leith, Trinity, Lamlash, Turnberry, and Rothesay, on 18th; at Peterhead, on 19th; at Braemar, Peterhead, Kingussie, and Fort William, on 20th; at Deerness, on 23rd; and at Braemar, Montrose, Lednathie, Leith, and Trinity, on 24th.

Mock Suns.—At Leith and Trinity, on 11th.

Thunder without Lightning.—None reported.

Lightning without Thunder.—At North Unst, Cape Wrath, Stornoway, Flannan Islands, Stourhead, Skerryvore, Kyleakin, Dhuheartach, Lamlash, and Fort William, on 3rd; at Pentland Skerries, Lairg, Fort William, Rothesay, and Pladda, on 4th; at Lairg, on 5th; and at North Ronaldshay, Nouphead, and Lairg, on 9th.

Thunder with Lightning. — At Lairg, on 3rd; at Kinnairdhead, Deerness, Kyleakin, and Ardnamurchan, on 4th; at Flannan Islands, on 5th; and at Bressay, Start Point, and Lairg, on 9th.

Auroras.—At Montrose, on 9th; at Tiumpanhead, on 30th; and at Glasgow, on 31st.

FEBRUARY 1902.

The month was characterised by a mean barometric pressure about the average, an extremely low mean temperature, and a mean rainfall only about half the average.

The maximum *Black-bulb* in the sun was 102°·0, at the Royal Observatory, Edinburgh, on the 15th; the minimum on grass being −2°·6, at Braemar, on the 1st.

Underground Thermometers, at depths of 3, 12, and 22 inches, gave, on the mean of the month, the following results:—Dunrobin, 35·0, 36·0, 36·5; Haddo House, 32·5, 33·4, 34·4; Arbroath, 32·5, 32·7, 34·5; Poltalloch, 34·3, 35·2, 35·1; Paisley, 34·9, 34·9, 36·3; Corstorphine, 32·5, 34·5, 35·6; Smeaton, 32·3, 33·2, —; Marchmont, 32·1, 33·5, 36·0. At Ochtertyre, at depths of 3, 12, 22, 36, and 48 inches, the means were respectively 33·3, 34·7, 36·7, 38·5, and 39·7.

Wind.—As regards direction, winds from N, NE, and E were each 1 day, and from SE 2 days above their average frequency; there being a proportionate deficiency of winds from SW and W. The weather was somewhat stormy in western districts, on the 16th; but the month, as a whole, was remarkably free from gales.

Fog.—Inchkeith reported a good deal on 5th and several days thereafter, whilst on the SE coast generally fog was very prevalent from 18th to 25th. In the N the 24th was a very foggy day, whilst towards the SW a good deal occurred on 19th, and from 23rd to 25th.

Halos.—Solar Halos, at Rothesay, on 7th, 10th, and 18th; and at Deerness, on 15th. *Lunar Halos*, at Leith, on 15th ; at Lednathie and Peterhead, on 16th; at Deerness and Lednathie, on 17th; and at Deerness, on 20th, 21st, and 22nd.

Meteors.—At North Unst, on 8th.

Thunder without Lightning.—None reported.

Lightning without Thunder.—None reported.

Thunder with Lightning.—At Stourhead, on 8th.

Auroras.—At Fort William, Achariach, and Peterhead, on 7th; at North Unst and Deerness, on 8th; at Glasgow, on 9th; and at Achariach, on 10th.

MARCH 1902.

The month was characterised by a low mean barometric pressure, a mean temperature above the average in all districts, and a rainfall deficient in most eastern and southern districts, but in excess at nearly all western and northern stations.

The maximum *Black-bulb* in the sun was 115°·0, at Braemar, on the 31st; the minimum on grass being 12°·5, at the same place, on the 25th.

Underground Thermometers, at depths of 3, 12, and 22 inches, gave, on the mean of the month, the following results: — Dunrobin, 40·0, 41·7, 41·3 ; Haddo House, 37·7, 40·0, 38·8; Arbroath, 38·7, 38·6, 39·1; Poltalloch, 42·6, 43·6, 41·6; Paisley, 42·2, 41·6, 42·2; Corstorphine, 40·2, 40·8, 40·1 ; Smeaton, 39·5, 40·0, —; Marchmont, 38·9, 39·7, 40·4. At Ochtertyre, at depths of 3, 12, 22, 36, and 48 inches, the means were respectively 40·3, 41·2, 41·2, 40·8, and 41·1.

Wind.—As regards direction, winds from SW were 3 days, and from W 2 days above their average frequency ; there being a proportionate deficiency of winds from N and E. A moderate gale from S was experienced in many districts on the 13th, and a gale from WSW in all districts on 19th and 20th. It calls for remark that a gale which passed eastwards over the centre of England, on the 24th, was quite unfelt in Scotland.

Fog. — Occurrences were seldom of long continuance, but a good deal was reported here and there until the 18th,—in SE, on 10th; in NE, on 1st and 2nd; in N, on 6th, 10th, and 17th; in W, on 6th and 7th ; and in SW, on 6th, 7th, and 12th.

Halos.—Solar Halos, at Deerness, on 11th ; at Leith and Trinity, on 13th; at Deerness, Leith, and Trinity, on 14th ; at Fort Augustus, Leith, and Trinity, on 16th; at Rothesay, on 24th ; and at Trinity, on 28th. *Lunar Halos*, at Deerness and Peterhead, on 16th ; at Glasgow and Leith, on 20th ; and at Turnberry, on 23rd and 24th.

Thunder without Lightning.—None reported.

Lightning without Thunder.—At Rothesay, on 13th ; and at North Unst, on 26th.

Thunder with Lightning.—At Glasgow, on 20th.

Auroras.—None reported.

APRIL 1902.

The month was characterised by a mean barometric pressure a little above the average, a mean temperature above the average towards the north-west, but slightly deficient in other districts, a rainfall above the average in Shetland, the Hebrides, the counties of Aberdeen and Kincardine, but deficient in most other districts.

The maximum *Black-bulb* in the sun was 127°·5, at Tillypronie, on the 25th ; the minimum on grass being 16°·4, at Braemar, on the 7th.

Underground Thermometers, at depths of 3, 12, and 22 inches, gave, on the mean of the month, the following results :—Dunrobin, 44·4, 45·7, 45·0; Haddo House, 42·0, 42·7, 42·1 ; Arbroath, 42·5, 41·9, 41·8 ; Poltalloch, 45·3, 46·5, 44·5 ; Paisley, 44·1, 43·5, 44·7 ; Corstorphine, 43·1, 43·7, 43·4 ; Smeaton, 44·5, 44·3, — ; Marchmont, 43·1, 43·5, 43·7. At Ochtertyre, at depths of 3, 12, 22, 36, and 48 inches, the means were respectively 42·6, 44·2, 43·8, 43·1, and 43·0.

Wind.—As regards direction, winds from SE, S, and NW were each 1 day above their average frequency ; there being a proportionate deficiency of winds from NE. A gale from NW was experienced in northern districts, on 1st ; a gale from E at some eastern lighthouses, on 12th ; and a gale from SE on northern and south-western coasts, on 22nd.

Fog.—In E a good deal was reported on 15th and 26th ; in the Shetlands, from 23rd to 26th ; and in Firth of Clyde, from 8th to 11th.

Halos.—Solar Halos, at Leith and Trinity, on 2nd ; at Rothesay, on 4th ; at Leith and Trinity, on 14th, 15th, and 16th ; at Glasgow, on 15th ; at Deerness, on 17th and 18th ; at Rothesay, on 20th, 24th, and 28th ; and at Leith and Trinity, on 29th. *Lunar Halos*, at Turnberry, on 14th.

Mock Suns.—At Sule Skerry, on 28th.

Thunder without Lightning.—At Leadhills, Drumlanrig, and Cargen, on 13th ; at Lednathie, on 22nd ; at Fort William, Arbroath, Montrose, Stronvar, Smeaton, and Broomlands, on 23rd ; at Lednathie and Broomlands, on 24th ; and at Lednathie, on 25th.

Lightning without Thunder.—None reported.

Thunder with Lightning.—At Fort Augustus, on 3rd ; at Gordon Castle, on 5th ; at Cally, on 12th ; at Loch Ryan and Corsewall, on 13th ; at Lednathie and Perth, on 19th ; and at Barn's Ness, on 23rd.

Auroras.—At Tiumpanhead, on 9th.

MAY 1902.

The month was characterised by a mean barometric pressure about the average, an abnormally low mean temperature, a rainfall of somewhat irregular distribution, about twice the average in Aberdeenshire, but defective in many districts, and less than the normal on a mean of the whole country.

The maximum *Black-bulb* was 131°·0, at Braemar, on the 23rd; the minimum on grass being 18°·1, at the same place, on the 10th.

Underground Thermometers, at depths of 3, 12, and 22 inches, gave, on the mean of the month, the following results:—Dunrobin, 47·2, 49·5, 49·3; Haddo House, 47·4, 47·7, 47·0; Arbroath, 45·0, 44·9, 44·8; Poltalloch, 48·4, 50·7, 49·3; Paisley, 48·7, 47·5, 48·7; Corstorphine, 47·8, 48·5, 47·8; Smeaton, 50·3, 49·7, 48·5; Marchmont, 46·3, 46·9, 47·7. At Ochtertyre, at depths of 3, 12, 22, 36, and 48 inches, the means were respectively 46·7, 48·2, 47·6, 46·4, and 45·9.

Wind.—As regards direction, winds from W were 2 days, from NW 2 days, and from N 4 days above their average frequency; there being a proportionate deficiency of winds from E and S. A moderate W gale was experienced in the north, on the 25th; a SW gale in east and north, on 28th; and a NE gale on south-eastern and western coasts, on 31st.

Fogs.—A good deal was reported in the Shetlands, on 23rd and 24th; and in the NW and W, on 22nd and 23rd.

Halos.—*Solar Halos*, at Rothesay, on 3rd; at Fort William, Rothesay, Leith, and Trinity, on 10th; at Deerness and Leith, on 14th; at Tiumpanhead, on 16th; at Deerness and Rothesay, on 17th and 18th; at Rothesay, Leith, and Trinity, on 21st; at Deerness, on 22nd; and at Deerness, Leith, and Trinity, on 30th. *Lunar Halos*, none reported.

Thunder without Lightning.—At Dalkeith, on 5th; at Wolfelee and Drumlanrig, on 6th; at Drumlanrig, on 22nd; at Logie-Coldstone, on 29th; and at Lamlash, on 31st.

Auroras.—None reported.

JUNE 1902.

The month was characterised by an average barometric pressure, a mean temperature below the average in all districts, a rainfall above the average in the Shetlands, the Moray Firth area, and the Lothians, but deficient in nearly all other districts.

The maximum *Black-bulb* in the sun was 140°·0, at Braemar, on the 24th; the minimum on grass being 26°·2, at the same place, on the 18th.

Underground Thermometers, at depths of 3, 12, and 22 inches, gave, on the mean of the month, the following results:—Dunrobin, 53·1, 54·0, 53·2; Haddo House, 54·7, 54·4, 53·0; Arbroath, 50·9, 50·3, 49·5; Poltalloch, 57·4, 56·9, 55·3; Paisley, 53·5, 52·8, 52·8; Corstorphine, 53·4, 53·1, 52·3; Smeaton, 55·5, 55·0, 53·0; Marchmont, 54·6, 53·6, 53·0. At Ochtertyre, at depths of 3, 12, 22, 36, and 48 inches, the means were respectively 53·6, 53·6, 51·9, 49·9, and 49·2.

Wind.—As regards direction, winds from N were 2 days, from NE 3 days, from E 3 days, and from SE 1 day above their average frequency; there being a proportionate deficiency of winds from SW and W. The month was practically free from gales, though a few exposed western lighthouses reported stormy weather on 14th and 20th.

Fog.—On E and NE coasts fog was very prevalent from 2nd to 5th, on 14th and 15th, and from 21st to the end of the month. In the Outer Hebrides, from 2nd to 6th, and after the 27th; and in the SW, from 21st to 24th.

Halos.—*Solar Halos*, at Deerness, Rothesay, Leith, and Trinity, on 10th; at Leith, on 11th; and at Leith and Trinity, on 19th. *Lunar Halos*, none reported.

Thunder without Lightning.—At Lamlash, on 1st; Lednathie, on 3rd; at Crathes, Lednathie, Buchlyvie, Smeaton, Marchmont, and Cally, on 4th; at North Ronaldshay, Loanhead, Aberdeen, Crathes, and Marchmont, on 5th; at Deerness, Crathes, Montrose, Buchlyvie, and Polkemmet, on 6th; at Smeaton, on 11th; at Lamlash, on 15th; at Drumlanrig, on 24th; at Fort William and Lednathie, on 25th; and at Braemar and Smeaton, on 30th.

Lightning without Thunder.—None reported.

Thunder with Lightning.—At Pladda, Sanda, Loch Ryan, and Corsewall, on 1st; at Peterhead, on 5th; and at Loanhead, Crathes, Lednathie, Montrose, Dundee, Balruddery, and Smeaton, on 30th.

Auroras.—None reported.

JULY 1902.

The month was characterised by a somewhat high mean barometric pressure, a mean temperature much below the average in all districts, and a rainfall above the average in Banffshire, Aberdeenshire, and the extreme south-west, but deficient in most other districts.

The maximum *Black-bulb* in the sun was 135°·0, at Ochtertyre, on the 29th; the minimum on grass being 27°·0, at Fort William, on the 2nd.

Underground Thermometers, at depths of 3, 12, and 22 inches, gave, on the mean of the month, the following results:—Dunrobin, 55·3, 57·7, 57·3; Haddo House, 56·8, 57·7, 56·9; Arbroath, 54·4, 54·0, 53·3; Poltalloch, 58·9, 60·4, 59·0; Paisley, 57·6, 57·4, 58·6; Corstorphine, 57·5, 57·8, 57·2; Smeaton, 59·5, 59·9, 59·2; Marchmont, 56·8, 56·9, 56·9. At Ochtertyre, at depths of 3, 12, 22, 36, and 48 inches, the means were respectively 56·1, 57·3, 56·1, 54·0, and 52·9.

Wind.—As regards direction, winds from W and NW were each 1 day, and from N 2 days above their average frequency; winds from SE and S being proportionately deficient. The month was practically free from gales.

Fog.—Much less was recorded than in June. In N and NW a good deal occurred between 6th and 14th, whilst in the S a little was noted on 1st, 8th, and 9th.

Halos. — *Solar Halos*, at Deerness, Fort William, Rothesay, Leith, and Trinity, on 2nd; at Deerness, on 5th; at Leith and Trinity, on 16th; at Rothesay, on 16th, 18th, and 21st; and at Deerness, on 28th. *Lunar Halos*, none reported.

Thunder without Lightning.—At Broomlands, on the 2nd and 7th; at Gordon Castle, Loanhead, and Montrose, on 9th; at Aberdeen, on 16th; at Loanhead and Crathes, on 17th; at Cargen, on 23rd; at Broomlands, on 26th; and at Leith, Trinity, Dalkeith, and Smeaton, on 27th.

Lightning without Thunder.—None reported.

Thunder with Lightning.—At Dumfries, on 1st; at Inverness and Tillypronie, on 11th; and at Tillypronie, on 17th.

Auroras.—None reported.

AUGUST 1902.

The month was characterised by a fractionally high mean barometric pressure, a mean temperature much below the average in all district, and a rainfall more or less deficient in most districts.

The maximum *Black-bulb* in the sun was 144°·0, at Ochtertyre, on the 16th; the minimum on grass being 27°·3, at Braemar, on the 30th.

Underground Thermometers, at depths of 3, 12, and 22 inches, gave, on the mean of the month, the following results:—Dunrobin, 55·0, 56·8, 56·4; Haddo House, 55·4, 56·3, 55·6; Arbroath, 54·0, 54·2, 53·8; Poltalloch, 58·4, 60·0, 58·9; Paisley, 56·2, 55·7, 57·0; Corstorphine, 56·2, 57·3, 56·9; Smeaton, 58·4, 59·2, 57·0; Marchmont, 55·1, 55·2, 55·7. At Ochtertyre, at depths of 3, 12, 22, 36, and 48 inches, the means were respectively 55·0, 56·2, 55·6, 54·3, and 53·6.

Wind.—As regards direction, winds from the NW were 1 day, from N 2 days, and from E 1 day above their average frequency; there being a proportionate deficiency of winds from between SE and SW. The month was free from gales, and the mean wind force below the normal.

Fog.—A good deal noted in N, on 1st, 15th, and 28th; and in SW, between 13th and 18th.

Halos.—*Solar Halos*, at Trinity, on 22nd; and at Trinity and Deerness, on 23rd. *Lunar Halos*, none reported.

Meteors.—At Cantickhead, on 14th.

Thunder without Lightning.—At Montrose, on 1st; at Lednathie, on 2nd; at Lairg and Fort William, on 4th; at Broomlands, on 10th; at Leith and Buchlyvie, on 18th; at Dundee, Leith, Trinity, Dalkeith, and Wolfelee, on 20th; at Marchmont and Cargen, on 24th; at Marchmont, on 26th; at Fort William, Lochbuie, Buchlyvie, Polkemmet, Leith, Marchmont, Broomlands, and Cargen, on 27th; and at Dunrobin, Buchlyvie, Wolfelee, and Butt of Lewis, on 28th.

Lightning without Thunder.—At Montrose, Lednathie, and Trinity, on 28th.

Thunder with Lightning.—At Dundee, on 2nd; at Dundee, Balruddery, Stronvar, Ochtertyre, Paisley, and Glasgow, on 18th; at Broomlands, on 20th; at Deerness, on 23rd; at Greenock, Paisley, Glasgow, and Trinity, on 27th; and at Gordon Castle, Kinnairdhead, Balruddery, Perth, Stronvar, and Ochtertyre, on 28th.

Auroras.—None reported.

SEPTEMBER 1902.

The month was characterised by a very high mean barometric pressure, a mean temperature slightly above the average in most districts, and a rainfall much below the average in most districts, but greatly in excess in the extreme south-west.

The maximum *Black-bulb* in the sun was 140°·0, at Ochtertyre, on the 8th; the minimum being 23°·4, at Corstorphine, on the 13th.

Underground Thermometers, at depths of 3, 12, and 22 inches, gave, on the mean of the month, the following results:—Dunrobin, 53·3, 54·9, 54·7; Haddo House, 53·6, 54·3, 54·2; Arbroath, 52·0, 52·5, 52·7; Poltalloch, 55·3, 56·5, 56·3; Paisley, 53·2, 53·7, 54·8; Corstorphine, 52·3, 54·4, 54·6; Smeaton, 54·7, 55·2, 54·5; Marchmont, 52·0, 52·7, 53·7. At Ochtertyre, at depths of 3, 12, 22, 36, and 48 inches, the means were respectively 53·1, 54·5, 54·5, 53·5, and 53·5.

Wind.—As regards direction, winds from SE were 1 day above, and from E 1 day below their average frequency. On the 3rd a severe gale occurred in nearly all districts, and heavy rainfalls were recorded in the west. Otherwise the month was all but free from gales, though the weather was stormy in the Orkney and Shetland Islands, on 22nd and 23rd.

Fog.—Fog was somewhat prevalent in nearly all districts on various days before the 8th and after the 22nd. Hardly any occurred between the 10th and 21st. The foggiest periods were—in E, from 27th to 29th; in N, from 1st to 3rd, 7th, and from 28th to 30th; and in SW, 7th and 8th, 22nd and 23rd, and 28th. From Skye to Rhuvaal very little was noted.

Halos.—*Solar Halos*, at Trinity, on 1st; at Rothesay, on 5th; at Deerness, on 11th; at Fort William, on 16th; at Fort William, Rothesay, Trinity, and Leith, on 19th; and at Leith and Trinity, on 24th. *Lunar Halos*, at Leith, on 18th, and at Lamlash, on 19th.

Thunder without Lightning.—At Broomlands, on 16th.

Lightning without Thunder.—At Dunrobin and Buchlyvie, on 3rd; at Fort William, on 6th and 24th; and at Marchmont, on 19th.

Thunder with Lightning.—At Stornoway, Island Glass, Kyleakin, Glencarron, and Lairg, on 3rd; and at Marchmont, on 16th.

Auroras.—At Edinburgh, on 30th.

OCTOBER 1902.

The month was characterised by a high mean barometric pressure, a mean temperature above the average in most districts, but slightly deficient in the north-east and along the Caledonian Canal, and a rainfall deficient in most districts, but slightly in excess towards the north-west.

The maximum *Black-bulb* in the sun was 115°·0, at Ochtertyre, on the 12th; the minimum being 12°·0, at Braemar, on the 10th.

Underground Thermometers, at depths of 3, 12, and 22 inches, gave, on the mean of the month, the following results:—Dunrobin, 47·4, 49·6, 49·9; Haddo House, 44·3, 47·3, 48·2; Arbroath, 46·1, 47·6, 48·7; Poltalloch, 48·2, 50·5, 50·2; Paisley, 46·9, 47·8, 50·5; Corstorphine, 46·8, 49·2, 49·8; Smeaton, 48·2, 49·4, 49·1; Marchmont, 45·9, 47·5, 49·0. At Ochtertyre, at depths of 3, 12, 22, 36, and 48 inches, the means were respectively 46·7, 49·7, 50·5, 50·6, and 51·3.

Wind.—As regards direction, winds from NE and E were each 1 day above their average frequency; winds from SE and S being correspondingly deficient. A SW gale, accompanied by a very heavy rainfall, prevailed on 15th and 16th, whilst the weather was stormy in northern districts on 18th, and in south-western districts on 26th.

Fog.—Fog was hardly anywhere reported, save at Inchkeith, where it occurred from 11th to 14th, and from 18th to 20th.

Halos.—*Solar Halos*, at Rothesay, on 5th; at Lamlash, on 7th and 9th; at Leith, Trinity, and Lamlash, on 12th; at Leith, Trinity, Rothesay, Lamlash, and Turnberry, on 13th; at Leith and Trinity, on 19th; and at Rothesay, on 20th. *Lunar Halos*, at Leith, on 13th and 14th; at Turnberry, on 13th and 19th; at Fort William and Glasgow, on 17th; and at Deerness, on 18th.

Mock Suns.—At Trinity, on 12th; and at Deerness, on 21st.

Thunder without Lightning.—None reported.

Lightning without Thunder.—None reported.

Thunder with Lightning.—None reported.

Auroras.—At Edinburgh, on 4th; and at Stourhead, on 24th.

NOVEMBER 1902.

The month was characterised by a slightly low mean barometric pressure, a mean temperature considerably above the average, and a rainfall deficient in most districts, but above the average in the extreme south-west, in Forfarshire, and in eastern Perthshire.

The maximum *Black-bulb* in the sun was 118°·0, at Ochtertyre, on the 2nd; the minimum on grass being 18°·0, at the same place, on the 22nd.

Underground Thermometers, at depths of 3, 12, and 22 inches, gave, on the mean of the month, the following results:— Dunrobin, 45·1, 45·9, 46·0; Haddo House, 42·3, 43·3, 44·3; Arbroath, 44·2, 44·9, 45·7; Poltalloch, 44·8, 46·4, 45·8; Paisley, 44·0, 44·5, 47·1; Smeaton, 43·4, 44·0, 44·9; Corstorphine, 42·6, 44·4, 45·3; Marchmont, 41·3, 42·8, 44·9. At Ochtertyre, at depths of 3, 12, 22, 36, and 48 inches, the means were respectively 43·4, 45·6, 46·7, 47·5, and 48·5.

Wind.—As regards direction, winds from E were 2 days, from SE 6 days, and from S 2 days above their average frequency; there being a proportionate deficiency of winds from W and N. The weather was stormy in east and north on the 1st, from 4th to 8th, and on 29th and 30th. In the west there was a S gale on the 13th; and in the south-west there was much stormy weather after the 7th.

Fog.—Practically none reported, except a little in E and N on 6th, and in SW on 14th.

Ground-Swells.—At St. Abb's Head, on 7th and 8th.

Halos.—*Solar Halos*, none reported. *Lunar Halos*, at Leith, on 10th; and at Lamlash, on 10th and 13th.

Meteors.—At Corstorphine, on 22nd.

Thunder without Lightning. — At Fort Augustus, on 5th.

Lightning without Thunder.—None reported.

Thunder with Lightning.—None reported.

Auroras.—At Deerness, on 22nd; and at Auskerry and Lamlash, on 23rd.

DECEMBER 1902.

The month was characterised by a high mean barometric pressure, a mean temperature above the average, and a rainfall on the whole above the average, but deficient towards the south-west and along a great part of the east coast.

The maximum *Black-bulb* in the sun was 92°·0, at Ochtertyre, on the 24th; the minimum on grass being 8°·0, at Braemar, on the 7th.

Underground Thermometers, at depths of 3, 12, and 22 inches, gave, on the mean of the month, the following results:—Dunrobin, 38·8, 40·0, 40·5; Haddo House, 36·5, 38·2, 39·3; Arbroath, 38·5, 39·2, 40·6; Poltalloch, 39·5, 41·2, 40·3; Paisley, 39·7, 40·2, 40·0; Corstorphine, 38·2, 39·7, 40·2; Smeaton, 39·0, 39·7, 39·9; Marchmont, 37·6, 39·0, 40·4. At Ochtertyre, at depths of 3, 12, 22, 36, and 48 inches, the means were respectively 38·8, 40·7, 42·0, 43·3, and 44·6.

Wind.—As regards direction, winds from E were 1 day, from SE 2 days, and from W 2 days above their average frequency; there being a corresponding deficiency of winds from N and SW. The weather was very stormy on the 1st and 2nd, from 14th to 18th, on the 25th and 28th. A W gale on 28th was accompanied by a snowstorm, with thunder and lightning at many places.

Fog.—Hardly any reported except in Moray Firth, on 11th and 12th; and at some northern and western lighthouses, on 21st.

Ground-Swells.—At Todhead, on 1st and 2nd.

Halos.—*Solar Halos*, none reported. *Lunar Halos*, at Inverness, on 5th; at Lamlash, on 7th; at Fort William, Glasgow, and Lamlash, on 11th; at Lamlash, on 13th; and at Lairg, Cromarty, Crathes, Trinity, and Leith, on 15th.

Thunder without Lightning.—None reported.

Lightning without Thunder.—At Flannan Islands, on 14th; at North Ronaldshay and Lamlash, on 18th; at Devaar, on 27th; and at Pladda, on 28th and 29th.

Thunder with Lightning.—At Ushenish, on 14th; at Glencarron, on 18th; at Turnberry, on 26th; at Lairg, Fort William, Poltalloch, Greenock, Paisley, Glasgow, and Buchlyvie, on 28th.

Auroras.—None reported.

Observers' Notes on the State of Public Health, etc., during 1902.

JANUARY 1902.—Dunrobin:—Early part of month good for outdoor operations; end of month, snowstorm and frost. Potatoes plentiful. Keep for stock generally plentiful.

Peterhead:—Whooping-cough epidemic. A few cases of influenza.

Rothesay:—The meteorological phenomena of January have been of an extremely variable nature, the temperature ranging between that of genial spring and arctic winter. Barometric gradients have also been of an eccentric nature, ranging between 28·720 on the evening of the 1st, to 30·910 on the morning of the 31st. Rainfall is seven-tenths of an inch below the average.

FEBRUARY 1902.—Dunrobin:—Most of the month stormy and cold, with snow and frost. Outdoor operations very much retarded. Keep for cattle fairly plentiful indoors.

Peterhead:—Whooping-cough epidemic. Pneumonia prevalent among the younger children. Since the 14th, influenza has been prevalent, almost assuming epidemic proportions. During the whole month the weather has been trying, and the sick-list has been heavy.

Rothesay:—The first half of the month was frosty and fine, with a slight fall of snow on the 8th and 12th. The latter half was dull and hazy and damp. The songsters of the grove are again in full concert, and vegetation is giving evidence of returning spring.

MARCH 1902.—Dunrobin:—Month cold, and a good deal of rain. March dust scarce. Sowing late, owing to unsuitable weather.

Peterhead:—On the whole a good month. Came in like a lamb, but assumed a leonine aspect on the 29th and 30th. Sowing began on the 18th in the district. Influenza prevails to some extent. Whooping-cough epidemic.

Rothesay:—The weather of the month has been dull and unsettled. Any dry spells have been of short duration, and, as a consequence, field labour is falling behind. There has been a marked absence of easterly winds, and growth at present is two weeks late.

APRIL 1902.—Dunrobin:—Month cold and vegetation backward. Outdoor work well forward.

Rothesay:—The weather during the month though comparatively fine has been chilly and backward, with hoar frost nearly every morning. Growth has made little progress. Swallows were seen about a fortnight earlier than usual, but up till the end of the month their appearance has been limited. Field labour is well advanced, and the corn braird is appearing everywhere. Rainfall 0·65 below the average.

MAY 1902.—Deerness:—Very cold May, keeping all crops back. Grass stiff and stunted.

Dunrobin:—Month cold, backward, and sunless. Vegetation late. Keep for stock rather scarce. Work well forward. Leafage on trees late, and, in exposed places, a good deal spoiled by gales.

Montrose:—A cold month. Storm of wind and rain on the last day of the month caused much damage to fruit trees in blossom.

Rothesay:—A chilly and backward month with a strong north-east gale on the last day of the month. Frost in the mornings during the early part of the month, and, as a result, growth has made little progress. The foliage of trees and shrubs have quite a tanned and autumnal appearance. Field labour is well advanced.

JUNE 1902.—Dunrobin:—With the exception of the last week, the month was mostly dull and sunless. Crops are looking well, so far, but late.

Rothesay:—The weather from the 1st to 23rd was dull, chilly, and damp, although the actual amount of rainfall measured was considerably below the average. The latter part of the month was remarkably warm, temperature in the shade rising to 81° on the 25th and 28th.

JULY 1902.—Deerness:—The hay crop is light owing to the very cold summer.

Dunrobin:—Month wet and deficient in sunshine. Crops look well, but will be later than usual.

Rothesay:—A changeable month, with bright and cloudy intervals, and rainfall over an inch above the average. Growth has been retarded by low night temperatures, and at the close of this month is two weeks late. Hay is now nearly all secured.

AUGUST 1902.—Deerness:—Crops are in a very backward condition.

Dunrobin:—Month fairly good, but deficient in sunshine. Crops are late, but otherwise good.

Rothesay:—Mostly dull and chilly, with low night temperatures. Growth has made fair progress, and several fields of oats are nearly ready for cutting, but harvesting generally will be two weeks late.

SEPTEMBER 1902. — Deerness: — The crops have increased in bulk very much since the rains in the middle of August. The crops will now be fully an average, but very late. The first cut in district was on 2nd October.

Dunrobin:—Fairly good month. Small fruits good, but late. Good appearance for harvest, though late. Crops look well.

Crathes:—The harvest in this district was general towards the end of the month. The crops are good, but about a month later than last year. The potato crop is good, with little or no disease. The turnip crop is apparently very good. The month, on the whole, has been deficient of sunshine.

Rothesay: — Very changeable weather. The oat crop is now nearly all cut, and looks well. Harvest work has been greatly retarded, and is now three weeks late. Leaves of deciduous trees are now beginning to fall.

OCTOBER 1902. — DEERNESS: — Lammas rains started the growth of the oats afresh. It is now much more abundant than was anticipated. Much of it is still uncut, and part of what has been cut is very green. Bere gathered, but not the oats.

DUNROBIN:—Harvest late, but month fairly good for getting in crops. Cereal crop good, except on very hilly ground. Potatoes free from disease. Turnips promising a good appearance. Weather good for outdoor work.

CRATHES:—Within a radius of two miles from this place the grain crop has been safely got into the farmyard by the end of the month. Apples, plums, and pears have been a light crop, and badly matured.

ROTHESAY:—The first half of the month was dry and fine, with indications of frost on one or two occasions. Latter half showery and unsettled, with strong gale on the 15th and 16th. Tender annuals are still fresh and green. Deciduous trees are now nearly all bare of leaves. Ground is soft and wet, not from the excessive rainfall, which is below the average, but from dampness of the air.

NOVEMBER 1902.—DEERNESS:—Farmers finished gathering their grain crops about 16th. Potatoes of many fields lifted subsequently. Latest harvest on record.

DUNROBIN:—Potatoes a fairly good crop generally, but small. Weather good for outdoor work during most of the month.

ROTHESAY:—Dull, showery, and unsettled. Tender annuals still fresh and green.

DECEMBER 1902.—ROTHESAY:—Wet and unsettled weather, with a succession of gales from south-west and north-west, especially during the latter part of the month.

REPORT ON THE METEOROLOGY OF SCOTLAND during 1903, and of OBSERVERS' NOTES ON THE STATE OF AGRICULTURE, PUBLIC HEALTH, ETC. By ALEXANDER BUCHAN, Meteorological Secretary.

JANUARY 1903.

The month was characterised by a slightly low mean barometric pressure, a slightly low mean temperature, and a rainfall greatly above the average, being the largest January rainfall since 1877. [*See* Notes on the Numerical Returns of Scottish Meteorology, p. 136 of this *Journal.*]

The maximum *Black-bulb* in the sun was 84°·2, at the Royal Observatory, Edinburgh, on the 28th; and the minimum on grass 0°·3, at Braemar, on the 13th.

Records of *Underground Thermometers* will be found hereafter at the end of the "Numerical Returns" for each quarter. [*See* pp. 147, 161, 173, 187 of this *Journal.*]

Wind.—As regards direction, the distribution was just about the average, winds from W being 1 day above, and from NW 1 day below the average. On the 3rd and 4th a gale from SW was experienced on the south-western coasts, and on the 9th and 10th an E gale with heavy falls of snow and sleet was general except in northern districts. Between 14th and 17th the weather was again stormy, whilst the last eight days of the month were marked by exceptionally strong W winds, frequently reaching gale force. At Stourhead a gale was reported continuously from the evening of the 23rd to the afternoon of the 31st, and this record was approached at Cape Wrath, Monach, Dhuheartach, and one or two others of the more exposed lighthouses.

Fog.—Fog was reported in the Firth of Forth on 1st, 5th and 6th, 8th to 10th, very thick from 12th to 14th, and on 20th and 21st. At several south-western lighthouses a good deal was noted on the 9th and 10th, and from 13th to 15th.

Halos.—*Solar Halos*, at Leith, on 1st, and Lamlash, on 24th. *Lunar Halos*, at Deerness and Inverness, on the 5th; and at Fort Augustus, Fort William, Glasgow, and Leith, on the 8th.

Thunder without Lightning. — At Fort William, on 14th, 16th, and 27th.

Lightning without Thunder. — At Fort William and Rothesay, on 3rd; at Lamlash, on 6th; at North Unst, Hellyar Holm, Deerness, Nouphead, Lairg, Inverness, Fort Augustus, Fort William, Corran, Cromarty, and Gordon Castle, on 26th; and at several places from Hoy Sound to Turnberry, on 27th and 28th.

Thunder with Lightning.—At Lochbuie, on the 3rd; at Hoy Sound, Kirkwall, Cape Wrath, Flannan Islands, and Glencarron, on 26th; at North Unst, Bressay, Sumburghhead, Deerness, Kirkwall, Nouphead, Butt of Lewis, Rona, Kyleakin, Glencarron, Ardnamurchan, Rhuvaal, and Corran, on 27th; and at Start Point, Nosshead, Holbornhead, and Poltalloch, on 28th.

Auroras.—None reported.

St. Elmo's Fire.—At North Unst, on 28th.

FEBRUARY 1903.

The month was characterised by a low mean barometric pressure, a notably high mean temperature, and a remarkably heavy rainfall, more than twice the average at many places.

The maximum *Black-bulb* in the sun was 102°·8, at the Royal Observatory, Edinburgh, on the 20th; and the minimum on grass 20°·0, at Crathes, on the 28th, and at Ochtertyre, on the same day.

Wind.—As regards direction, there was a very large excess of winds from W and SW, winds from each of these points blowing on 3 days more than the average number, and winds from between N and SE being correspondingly deficient. Gales from a more or less N point occurred on 1st and 6th, whilst the last ten days of the month were of an exceptionally stormy character, gales from SW being almost continuous during that period at some western lighthouses.

Ground-Swell.—At Bressay, on 24th and 25th.

Fog.—Barrahead reported an aggregate of 117 hours, but no other lighthouse more than 18 hours, the occurrences usually being of brief duration.

Halos.—*Solar Halos*, at Leith, on 1st. *Lunar Halos*, at Inverness, on 3rd; at Paisley, on 8th; at Inverness, Rothesay, and Leith, on 9th; and at Inverness and Leith, on 10th.

Thunder without Lightning.—None reported.

Lightning without Thunder.—At Bressay, on 6th and 7th; at Inverness, on 9th; at Rothesay, on 10th; at North Unst, Start Point, Nouphead, Flannan Islands, Lairg, and Skerryvore, on 19th; and at various places, except in south-eastern counties, between 20th and 25th.

Thunder with Lightning.—At Hellyar Holm, Fair Isle, Start Point, and Deerness, on 20th; at Bressay, Fort William, Sule Skerry, Poltalloch, and Paisley, on 21st; at Deerness, on 22nd; at Oronsay and Lismore, on 24th; and at Rona, Oronsay, Lismore, Glencarron, Lochbuie, and Cally, on 25th.

Auroras.—None reported.

MARCH 1903.

The month was characterised by an exceedingly low mean barometric pressure, a rather high mean temperature, and a rainfall considerably above any previously recorded for the month of March, rain falling at several places on every day of the month.

The maximum *Black-bulb* in the sun was 115°·2, at Braemar, on the 6th; and the minimum on grass 16°·0, at Crathes, on the 15th.

Wind.—As regards direction, there was an excess of winds from a SW quarter, even more remarkable than in February, winds from S being 2 days, from SW 6 days, and from W 1 day above their average frequency; and winds from NW, N, NE, and E being correspondingly deficient. The month was somewhat less stormy than January or February, but after the 15th, gales from SW and S were of frequent occurrence, especially in western districts.

Fog.—Very few of the lighthouses reported fog, a little occurring in the Firth of Forth between 12th and 14th; and a little also at the Mull of Galloway, on 12th, and one or two other days.

Halos.—*Solar Halos*, at Lamlash, on 18th and 27th; and at Leith, on 21st. *Lunar Halos*, at Inverness, on 3rd; at Lednathie, on 9th; at Lamlash and Glasgow, on 10th; and at Lamlash, on 13th.

Thunder without Lightning.—At Glasgow, on 5th; at Poltalloch, on 23rd; at Montrose, Arbroath, Dundee, Balruddery, and Wolfelee, on 26th; and at Marchmont, on 31st.

Lightning without Thunder. — At Fort William and Turnberry, on 1st; at Nouphead, Kyleakin, and Fort William, on 4th; at Glencarron and Kyleakin, on 5th; at Buchanness, on 9th; at Fort William, on 15th; at Dhuheartach, on 17th; at Butt of Lewis, Tiumpanhead, Flannan Islands, Glencarron, Fort William, and Crathes, on 18th; at Deerness, Glencarron, Fort William, Lochbuie, and Arbroath, on 19th; at Glencarron, on 20th; at Hellyar Holm, on 25th; at Dhuheartach, on 27th; at Sule Skerry, Fort William, and Turnberry, on 28th; at Corrau, Fort William, and Sule Skerry, on 29th; and at Dhuheartach, on 30th.

Thunder with Lightning. — At Mull of Kintyre, on 1st; at North Ronaldshay, Flannan Islands, Poltalloch, and Broomlands, on 4th; at Lairg, on 5th and 6th; at Stourhead, on 7th; at Lairg, on 18th and 19th; and at Marchmont and Broomlands, on 26th.

Auroras.—None reported.

APRIL 1903.

The month was characterised by a rather low mean barometric pressure, a very low mean temperature, and a rainfall on the whole below the average, but in excess in most northern districts.

The maximum *Black-bulb* in the sun was 132°·0, at Ochtertyre, on the 28th; and the minimum on grass 17°·0, also at Ochtertyre, on the 24th.

Wind.—As regards direction, winds from NW were 3 days, and from N 1 day above their average frequency, winds from E, S, and SW being correspondingly deficient. A gale from W and NW was experienced on most coastal districts on the 7th, whilst the weather was somewhat stormy between the 11th and 13th. During the latter half of the month, when the weather was remarkably cold, gales were nowhere reported.

Fog.—A little fog was experienced in Firth of Forth on 1st, towards NW on 3rd, and at many northern and western lighthouses on 8th and 9th; whilst during the last three days of the month it was general, and rather dense on east and north-east coasts.

Halos. — *Solar Halos,* at Lamlash and Rothesay, on 5th; at Lamlash, on 14th; at Leith, on 18th; and at Rothesay, on 19th. *Lunar Halos,* at Leith, on 5th; at Inverness, on 6th; and at Lamlash, on 11th.

Thunder without Lightning.—At Wolfelee, on 1st; at Leith, on 16th; and at Greenock, Kilmarnock, Buchlyvie, Leith, Dalkeith, Smeaton, Marchmont, and Drumlanrig, on 30th.

Lightning without Thunder.—At Glencarron and Fort Augustus, on 30th.

Thunder with Lightning.—At Ochtertyre, Clathick, Paisley, Glasgow, Edinburgh, Broomlands, Dumfries, and Cargen, on 30th.

Auroras.—None reported.

MAY 1903.

The month was characterised by a somewhat low mean barometric pressure, a mean temperature about the average, and a rainfall deficient in most districts, but in excess in the north-east and south-west and along the Caledonian Canal.

The maximum *Black-bulb* in the sun was 142°·1, at Tillypronie, on the 27th; and the minimum on grass 22°·5, at Braemar, on the 19th.

Wind.—As regards direction, winds from NE were 1 day, and from E 3 days above their average frequency; winds from SW and NW being correspondingly deficient. The mean wind force was below the normal, and the month practically free from gales, except at one or two scattered lighthouses for a few hours on isolated days.

Fog.—There was dense fog on east coast from 1st to 5th; on north-east, north, and north-west coasts from 1st to 3rd; and light fog on south-west coasts on 1st. Again after 26th heavy fog prevailed on northern and eastern coasts on several days, and in the SW on 31st.

Halos.—*Solar Halos,* at Leith, on 9th, 15th, and 24th. *Lunar Halos,* none reported.

Thunder without Lightning. — At Stobo Castle, Drumlanrig, Dumfries, and Cally, on 30th; and at Broomlands, Wolfelee, and Drumlanrig, on 31st.

Lightning without Thunder.—None reported.

Thunder with Lightning.—None reported.

Auroras.—None reported.

JUNE 1903.

The month was characterised by a very high mean barometric pressure, a low mean temperature, and a rainfall deficient over the greater part of the country, but in excess in Nairnshire and in parts of the counties of Inverness, Forfar, Fife, Renfrew, and Wigtown.

The maximum *Black-bulb* in the sun was 136°·0, at Ochtertyre, on the 4th; and the minimum on grass 22°·0, at the same place, on the 20th.

Wind.—As regards direction, winds from N were 1 day, from NE 3 days, and from E 2 days above their average frequency; there being a corresponding deficiency of winds from S, SW, W, and NW. The mean wind force was below the average, and the month was free from gales, the lighthouses of Rhuvaal, Mull of Kintyre, and Lamlash alone reporting a wind of gale force, all on the 26th.

Fog.—Fog was reported at eastern lighthouses, on 1st, 8th, and 9th; in N and NW, from 3rd to 10th; and in SW, on 4th, 5th, and 6th. Towards the end of the month a good deal was reported at various places.

Halos.—*Solar Halos,* at Rothesay, on 4th; at Leith, on 24th; and at Leith and Dumfries, on 25th. *Lunar Halos,* none reported.

Thunder without Lightning.—At Marchmont, on 3rd; at Stourhead, Balruddery, and Ochtertyre, on 25th; at Arbroath, Montroseness, Ochtertyre, and Leith, on 26th; at Stronvar, on 27th; at Deerness, on 28th; and at Stronvar, on 29th.

Lightning without Thunder. — At Fort Augustus, on 13th; at Greenock, on 26th; and at Lamlash, on 28th.

Thunder with Lightning.—At Wolfelee, on 3rd and 4th; at Clathick and Ochtertyre, on 24th; at Kyleakin, Glencarron, Lairg, Inverness, Fort Augustus. Fort William, Covesea, Cromarty, Gordon Castle, Dundee, and Clathick, on 25th; at Clathick and Wolfelee, on 26th; at Clathick, on 27th; at Holbornhead, Lairg, Lednathie and Paisley, on 28th; at Holbornhead, Glencarron, Kyleakin, Braemar, Arbroath, Montrose, Dundee, Perth, Ochtertyre, and Clathick, on 29th; and at Clathick, on 30th.

Auroras.—At Paisley, on 26th.

JULY 1903.

The month was characterised by a slightly low mean barometric pressure, a low mean temperature, and a rainfall greatly above the average in practically all districts.

The maximum *Black-bulb* in the sun was 139°·2, at Edinburgh, on 2nd; and the minimum on grass 28°·0, at Braemar, on 14th.

Wind.—As regards direction, winds from N, NE, E, and SE were each 1 day above their average frequency, there being a proportionate deficiency of winds from SW. On the 3rd a moderate gale from W and SW was experienced in some districts, whilst on 5th and 6th strong winds from N and NW prevailed, reaching gale force in most districts. Thereafter the month was entirely free from gales.

Fog.—Fog was prevalent on north and west coasts from 8th to 10th; in extreme SE and SW on 16th and 17th; and in E and N on several days after the 22nd. Fair Isle

North reported an aggregate of 167 hours, Sumburghhead 161 hours, and Barrahead 180 hours.

Halos.—Solar Halos, at Leith, on 21st and 24th. *Lunar Halos*, none reported.

Thunder without Lightning.—At Montrose, Buchlyvie, Leadhills, Dalkeith, Stobo, and Wolfelee, on 2nd; at Montrose and Smeaton, on 3rd; at Leith, on 10th; at Montrose, on 12th; at Montrose and Balruddery, on 13th; at Lednathie, on 21st; at Buchlyvie and Leith, on 22nd; at Arbroath, Marchmont, and Broomlands, on 23rd; at Lairg and Marchmont, on 24th; at Lairg, Lednathie, Marchmont, and Broomlands, on 27th; at Edinburgh and Cargen, on 29th.

Lightning without Thunder.—None reported.

Thunder with Lightning.—At Butt of Lewis, Rattrayhead, Kinnairdhead, Aberdeen, Crathes, Arbroath, Lednathie, Edinburgh, Leith, Marchmont, Drumlanrig, Dumfries, Cargen, Cally, Loch Ryan, and Fort William, on 2nd; at Hellyar Holm and Deerness, on 3rd; at Arbroath and Lednathie, on 13th; at Kinnairdhead, Lairg, Gordon Castle, Lednathie, and Greenock, on 22nd; at Crathes, Lednathie, and Balruddery, on 23rd; at Gordon Castle, Lednathie, Dhuheartach, and Paisley, on 27th; at Butt of Lewis, on 28th; and at Leith, on 29th.

Auroras.—None reported.

AUGUST 1903.

The month was characterised by an extremely low mean barometric pressure, a low mean temperature, and a very high mean rainfall, the number of rainy days being unusually large.

The maximum *Black-bulb* in the sun was 134°·2, at Edinburgh, on the 7th; the minimum on grass being 27°·5, at Crathes, on 24th.

Wind.—As regards direction, winds from SW were 1 day, from W 4 days, and from NW 1 day above their average frequency; there being a proportionate deficiency of winds from NE, E, and S. The mean wind force was about the normal, but the weather of the month was in general very unsettled, especially on the west coast. Gales from W and SW were reported at a few scattered places on the 3rd, from various points at a few places on the 15th and 16th, whilst on the 27th a gale from SW, and on the 30th, one from SE, were of general occurrence.

Fog.—Hardly any was reported on the west coast; but at northern and eastern lighthouses fog was somewhat prevalent on 9th, 14th, and 15th.

Halos.—Solar Halos, at Fort William, on 20th; at Inverness, on 29th. *Lunar Halos*, at Lairg, Inverness, and Peterhead, on 31st.

Thunder without Lightning.—At Montrose, on 4th; at Stobo Castle, on 5th; at Aberdeen, Gordon Castle, Marchmont, Stobo, and Cargen, on 6th; at Aberdeen, Gordon Castle, and Stobo, on 8th; at Lednathie, Balruddery, and Dalkeith, on 11th; at Deerness. Aberdeen, Crathes, Ochtertyre, Arbroath, Lednathie, Balruddery, and Marchmont, on 12th; at Arbroath, Lednathie, Balruddery, Ochtertyre, Marchmont, and Drumlanrig, on 13th; at Rona, Crathes, Balruddery, Leith, Dalkeith, and Stobo, on 14th; at Rona, Lochbuie, Inverness, and Leith, on 17th; at Aberdeen, Montrose, Buchlyvie, Rothesay, Greenock, Glasgow, Stobo, and Cally, on 18th; at Gordon Castle, Montrose, Lednathie, Buchlyvie, Leith, and Dalkeith, on 19th; at Deerness, Gordon Castle, Aberdeen, Montrose, and Kilmarnock, on 20th; at Stobo and Drumlanrig, on 23rd; and at Balruddery, on 29th.

Lightning without Thunder.—At Montroseness, on 8th; at Lamlash and Turnberry, on 14th; at Turnberry, on 15th; at North Unst and Pladda, on 19th; at North Ronaldshay, Noupbead, Nosshead, Dhuheartach, Lamlash, Buchlyvie, and Leith, on 20th.

Thunder with Lightning.—At Deerness and Bressay, on 9th; at Gordon Castle, Ochtertyre, Clathick, Edinburgh, and Leith, on 11th; at Lairg, Gordon Castle, Montrose, and St. Abb's Head, on 12th; at Rattrayhead, Montrose, and Dumfries, on 13th; at Cargen and Wolfelee, on 14th; at Hellyar Holm, Stourhead, Lairg, Glencarron, Fort Augustus, Fort William, Lismore, and Glasgow, on 15th; at Lednathie, Glasgow, and Wolfelee, on 18th; at Crathes, on 19th; at Hellyar Holm, Start Point, Inverness, Fort William, Crathes, Montrose, and Lednathie, on 20th; at Gordon Castle, on 21st; at Rothesay, on 22nd; and at Gordon Castle, Pladda, Lamlash, Dumfries, and Cargen, on 23rd.

Auroras.—None reported.

SEPTEMBER 1903.

The month was characterised by a high mean barometric pressure, a mean temperature slightly deficient in most districts, and a rainfall somewhat below the average in nearly all districts.

The maximum *Black-bulb* in sun was 131°·7, at Edinburgh, on 3rd; and the minimum on grass 20°·0, at Braemar, on 15th.

Wind.—As regards direction, winds from E were 2 days, from SE 3 days, and from S 1 day, above their average frequency; there being a proportionate deficiency of winds from SW, W, and NE. A gale from E and SE was reported at several lighthouses on the 1st, whilst at Rhuvaal the wind from E and SE reached gale force almost continuously from 17th to 24th. Otherwise gales were reported only sporadically on one or two days.

Fog.—Fog occurred in E and N on 19th; and dense fog on the east coast from 23rd to 27th; and in the N from 23rd to 30th. With the exception of a little in the SW on 25th, practically none was reported on the western and south-western coasts.

Halos.—*Solar Halos*, at Inverness, on 10th, 16th, 17th, and 29th. *Lunar Halos*, at Inverness, on 29th.

Thunder without Lightning.—At Nouphead, on 3rd; at Marchmont, on 9th; at Edinburgh, Marchmont, Wolfelee, Stobo, and Drumlanrig, on 11th; at Buchlyvie, on 24th; at Nouphead, Ochtertyre, and Clathick, on 30th.

Lightning without Thunder.—At Inverness, on 4th; and at Arbroath, on 9th.

Thunder with Lightning.—At Greenock and Glasgow, on 24th.

Auroras.—At Nouphead, on 15th; at Butt of Lewis, Flannan Islands, and Fort William, on 19th; and at Deerness, on 20th.

OCTOBER 1903.

The month was characterised by an abnormally low mean barometric pressure, a slightly high mean temperature, and a rainfall larger than any hitherto recorded for October, and at nearly every station in the southern half of the country more than double the average.

The maximum *Black-bulb* in the sun was 121°·0, at Ochtertyre, on 2nd; and the minimum on grass 22°·8, at Braemar, on 10th.

Wind.—As regards direction, winds from E, SE, S, and SW were each 1 day above their average frequency; there being a proportionate deficiency of winds from W, NW, and N. The month was unusually wet and unsettled, the weather being especially stormy in many districts on 5th, from 11th to 16th, and in the SW on 29th.

Ground-Swells.—At Bell Rock, on 9th and 10th; and at Covesea, on 12th and 13th.

Fog.—Hardly any reported.

Halos.—*Solar Halos*, at Leith, on 12th. *Lunar Halos*, at Cromarty, on 9th; at Nouphead, Cromarty, and Leith, on 10th; at Inverness, on 27th; and at Nouphead and Inverness, on 31st.

Meteors.—At Lairg, on 5th.

Thunder without Lightning.—At Lochbuie, on 20th; at Cargen, on 25th; and at Stonvar, on 27th.

Lightning without Thunder.—At Cargen, on 13th and 14th; at Arbroath, Lochbuie, and Cargen, on 15th; at Inverness, on 16th; at Cargen, on 21st; and at Arbroath, on 25th.

Thunder with Lightning.—At Nosshead, on 5th; at Fort William, on 14th; at Lismore, on 20th; at Montrose, Marchmont, Wolfelee, Broomlands, and Cally, on 25th; at Arbroath, Montrose, Barn's Ness, Bass Rock, St. Abb's, Marchmont, Wolfelee, and Broomlands, on 26th; and at Cargen, on 27th.

Auroras.—On the 13th, at Deerness, Nosshead, Tiumpanhead, Inverness, Covesea, and Montroseness. Another occurrence in the north, on 31st, was of a very brilliant character, and associated with a magnetic storm of great intensity. It was observed at Whalsey Skerries, Hellyar Holm, Start Point, Nouphead, Deerness, and Sule Skerry.

NOVEMBER 1903.

The month was characterised by a somewhat high mean barometric pressure, a slightly high mean temperature, and a rainfall more or less deficient over the greater part of the country, but above the average in northern districts.

The maximum *Black-bulb* in the sun was 105°·8, at Edinburgh, on 4th; and the minimum on grass 13°·2, at Braemar, on 29th and 30th.

Wind.—As regards direction, winds from W and NW were each 3 days above their average frequency; there being a proportionate deficiency of winds from between NE and S. The weather was very stormy in all districts from 20th to 22nd, and in northern and western districts on several days thereafter. Cape Wrath reported a gale continuously from the morning of the 22nd to the evening of the 26th, and Turnberry from 23rd to 26th.

Fog.—A little was reported in Firth of Forth, on 6th, 7th, 18th, and 19th; and a little in the extreme SW, from 6th to 8th.

Thunder without Lightning.—At Marchmont, on 20th; and at Sound of Mull, on 25th.

Lightning without Thunder.—At North Unst, on 3rd; and at Montrose, on 25th.

Thunder with Lightning.—At Gordon Castle, on 30th.

Auroras.—At Hellyar Holm, on 1st; at Tiumpanhead, on 2nd; and at Fort William, on 17th.

DECEMBER 1903.

The month was characterised by a low mean barometric pressure, a low mean temperature, and a rainfall more or less deficient in nearly all districts.

The maximum *Black-bulb* in the sun was 84°·1, at Edinburgh, on 8th; and the minimum on grass 7°·0, at Braemar, on 2nd.

Wind.—As regards direction, winds from E were 1 day, from SE 3 days, and from S 2 days above their average fréquency; there being a proportionate deficiency from N and W. The weather was stormy in south-western districts on 2nd and 3rd, and in nearly all districts on 7th and 21st.

Fog.—Not much fog was reported from the lighthouses, except from the sheltered stations of Inchkeith and Chanonry. But the month was marked, except in northern districts, by dense land fogs and absence of sunshine. At Paisley, fog occurred on 17 days; and at Glasgow, sunshine was recorded only on 1st.

Halos.—*Solar Halos*, at Nouphead and Leith, on 15th. *Lunar Halos*, at Crathes and Leith, on 2nd.

Falling Stars.—At Paisley, on 7th, 14th, 29th, and 30th.

Thunder without Lightning.—None reported.

Lightning without Thunder.—At Crathes, on 11th.

Thunder with Lightning.—None reported.

Auroras. — At Tiumpanhead, Monach, Kyleakin, Sound of Mull, Kingussie, and Inverness, on 13th; at Edinburgh, on 18th; at Inverness, on 24th; and at Stourhead and Tiumpanhead, on 31st.

OBSERVERS' NOTES ON THE STATE OF PUBLIC HEALTH, ETC., DURING 1903.

JANUARY 1903.—**DUNROBIN**:—Agricultural conditions of district good generally. Keep for cattle fairly plentiful.

ROTHESAY:—First eight days dull, hazy and wet, with slight fall of snow on 8th and 9th. From 10th till 17th, frosty and fine. The latter part of the month stormy, wet, and unsettled, with thunder and lightning on several occasions. Compared with the mainland, temperature has been of a moderate type.

FEBRUARY 1903.—**DUNROBIN**:—Rain, high winds, and blustery weather prevailed most of the month. Ground open for outdoor operations most of month. Keep plentiful. Agricultural conditions good.

ROTHESAY:—The weather has been dull, stormy and unsettled, with frequent gales, more especially towards the end of the month. There was a sudden and remarkable fall of the barometer on the morning of the 27th; the lowest reading, 28·136, being reached about 6 A.M.—or a depression of 1·138 from 9 P.M. the previous evening. No serious damage has been done, and Bute seems to have escaped the full fury of the storm. Fields are fresh and green, and leaf-buds are bursting, but growth is too far advanced for the season.

MARCH 1903.—**DUNROBIN**:—Weather during the month, wet and inclement. Work outdoors fairly forward, but little or no sowing of grain done during month. Very little heather burning done. Agricultural condition of district fairly good.

APRIL 1903.—**DEERNESS**:—Very late season. Although sowing commenced on the 24th, the damp weather set in on 28th again, and sowing has not yet been resumed. Very few potatoes planted.

DUNROBIN:—Fruit bushes and trees very much damaged by wet, snowy, and frosty weather from 11th to 19th. Outdoor work much hindered by bad weather. Seeds late in being got in, the ground being so wet and cold.

PAISLEY:—A remarkable storm of thunder and lightning and hail, from 1.43 till 2.9 P.M. on the 30th. Some of the hail that fell consisted of a spheroidal agglomeration of hail frozen together. Some of the hail measured had a diameter three-quarters of an inch. When melted, 0·52 inch fell in seventeen minutes.

ROTHESAY:—The first half of the month showery and unsettled. The latter, dry and more or less frosty. As a result, leaf-buds and tender shoots of trees and shrubs have been browned and blighted. Fortunately the dry spell was favourable for field labour, and, though somewhat late, sowing and planting has been finished under the most favourable conditions.

MAY 1903.—**DEERNESS**:—Very late spring. Bere sowing, which is generally finished about the 12th, was not completed this year till the end of the month.

DUNROBIN:—Season late, but weather fairly suitable for outdoor work. Cold easterly winds prevailed most of month.

ROTHESAY:—From the 1st to 23rd, weather dull, chilly, and unsettled. Growth made little progress till near the end of the month. Oats on lea ground are badly injured by grub-worm; and at present, 31st May, cornfields are more brown than green. Turnip sowing well advanced. With the exception of the ash, trees are now in full leaf, but, unfortunately, the tender leaves and shoots of trees and shrubs have been badly injured by the frosty nights of April and May.

JUNE 1903.—**DEERNESS**:—The drought of June has caused the hay to be very defective. The other crops have suffered from the same cause, but an abundant rain at the end of the month has given them a fresh start.

DUNROBIN:—Hay and farm crops promising well. Season late. Low temperatures at night, with northerly breezes. Fruit crops light.

LAIRG:—In this parish June has been very cold during nights, and very hot during day. Owing to want of rain, and to the hard frost which occurred on several occasions, the grass looks burned up, red, and withered, and the crops have been damaged. Later on in month rain fell copiously. Crops and grass are revived, and promise well.

ROTHESAY:—The weather during the early part of the month, though dry and chilly, was fine. Only a light shower or two fell between the 1st and 22nd, and the rainfall, the greater part of which fell on the last day of the month, is one inch below the average. The welcome showers of the last few days have given a fresh impetus to growth.

JULY 1903.—**DEERNESS**:—Very light hay crop. Not much more than half the average. Turnips very far back and irregular, owing to the drought of June.

DUNROBIN:—Month dull and sunless on the whole. Crops late. Heavy rain on the 5th caused considerable damage to roads, which in places were much cut up.

ROTHESAY:—Rainfall for month one inch above the average. The cutting and curing of hay has been greatly retarded, and is not yet completed.

AUGUST 1903.—**DEERNESS**:—The crops of grain are exceptionally late. The very wet weather is retarding the ripening. Turnips seem a failure. Singling was done a month later than usual.

DUNROBIN:—Crops promising, but late owing to cold nights and want of sunshine. Fruit crops thin, except raspberries and strawberries.

ROTHESAY:—With the exception of a few bright intervals the weather has been blustery and unsettled. Rainfall five inches above average. Ground now sodden wet, and turnip crop, which looked well a month ago, has made little progress, having become soured and blighted in many places with the excessive rainfall. Harvest, though somewhat late, has begun on one or two farms, and with favourable weather should be general in a week from now, 31st August.

SEPTEMBER 1903.—DEERNESS:—Grain will be an average crop, but very late. Turnips will average about half a crop. The fine September has improved them generally, but on some farms they are almost a blank.

DUNROBIN:—Hay has been a fairly good crop. Grain crops good, but harvest will be late. Potatoes good generally. Fruit crops bad, except strawberries and raspberries.

ROTHESAY:—From 2nd to 11th, showery and unsettled; from 12th to 21st, fair and fine, with indications of frost in early mornings; from 22nd to end of month, mild and unsettled, and not altogether favourable for harvest work. Fortunately a considerable portion of the crop was secured during dry spell in middle and latter end of month. A few fields are yet to cut, but about three-fourths of the crop is now secured.

OCTOBER 1903.—DEERNESS:—Probably about one-fourth of the corn crop is still uncut. Much of what was cut was green. The crop ripened wonderfully during October. Most of the bere has been built. All the oat crop is standing in stooks on the fields, 4th November.

DUNROBIN:—Month very wet. A good deal of the harvest of grain crops in bad condition with the continuation of wet weather. Early potatoes good. Later crops rather diseased. Turnips good in places, poor in some districts and soils.

CRATHES:—This month has been excessively wet. Harvesting is not yet nearly finished, and the crops are in a deplorable state. The grain crop is above the average, but is soft and not very marketable. The turnip crop is poor. Potatoes are showing signs of disease.

ROTHESAY:—A month of soaking rains and frequent gales near middle and end of month. There were only two days on which no rain fell. Rainfall nearly double the average. Harvest has been at a complete standstill, and a considerable portion still remains in the fields and is now virtually useless. The turnip crop has made no progress for the last two months, and will be far deficient in bulk, and on many farms a complete failure. Pastures still fresh and green, and tender annuals are still to the fore.

NOVEMBER 1903.—DEERNESS:—A few farmers in Orkney still have their crops, or at least a large portion of them, standing in stooks in the fields. Grain is very light per bushel—average about 35 lb. Turnips a very defective crop. Wet weather has not permitted many farmers to lift their potatoes.

DUNROBIN:—The first week of the month was fairly dry and admitted of harvesting operations, much of the grain being in the fields owing to prolonged wet weather. Remainder of month from 9th, wet. A good deal of grain harvested in bad order. Potatoes small, and late in being stored. Turnips fairly good.

ROTHESAY:—Another dull, blustery, and unsettled month, with stiff gales from 20th to 23rd, and sharp frost the last two days of the month. Tender annuals were all killed down on the 18th. The weather has been of the most unfavourable nature for outdoor labour. Rainfall nearly one inch below the average.

DECEMBER 1903.—DUNROBIN:—Weather during month rather changeable. Potatoes in some cases very late in being lifted. Turnips fairly good. Ground wet.

CLATHICK:—On account of so much wet weather and heavy fog there are a large number of people laid up with severe colds, very much in the nature of influenza, whole families being down at once, the throat and chest being the parts most affected. There are also about 30 cases of whooping-cough in Comrie at present. One case of scarlet-fever in this parish.

ROTHESAY:—With the exception of a few days near the end of the month the weather has been dull, wet, and unsettled, and outdoor labour has been greatly retarded. Rainfall one-quarter inch below the average.

RETURNS from STATIONS connected with the MEDICAL DEPARTMENT, and from ADDITIONAL STATIONS in connection with the SOCIETY, during the years 1902 and 1903.

STATIONS AND OBSERVERS' NAMES.	Height above Sea-Level.	Months.	BARO-METER.	AIR TEMPERATURE.					HYGROMETER. Mean at 9 a.m. and 9 p.m.				CLOUD.	RAIN.				WIND DIRECTION. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCES.
			Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean Max. A.	Mean Min. B.	Mean of A and B.	Highest.	Lowest.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.	Scale 0-10.	No. of Days.	Total Fall.	Most in a Day.		N	NE	E	SE	S	SW	W	NW	Calm or Var.	Scale of 0-12.
																Amount	Day of Month.										
	ft.	1902		in.	in.	in.	in.	in.	°	°	°				in.	in.											
COLDSTONE, SCHOOLHOUSE,	608	Jan.	...	41·6	30·9	36·2	51·0	3·0	35·6	1·3	·185	89	...	17	1·40	0·28	1	0	1	0	0	1	4	20	20	16	...
(Aberdeen.)		Feb.	...	36·9	27·8	32·4	50·0	0·0	32·0	0·7	·165	91	...	16	1·04	0·30	27	11	9	9	4	0	3	2	12	6	...
J. B. ANDERSON.		Mar.	...	46·4	33·3	39·8	59·0	20·0	39·2	1·4	·212	88	...	20	1·96	0·46	22	2	0	1	0	7	7	15	17	13	...
		Apr.	...	49·1	32·6	40·8	59·0	20·0	40·4	1·7	·216	87	...	18	2·88	0·66	11	1	0	3	2	16	1	3	22	12	...
		May	...	49·7	37·5	43·6	72·0	27·5	43·2	1·9	·243	87	...	26	5·54	0·73	31	0	3	3	1	0	0	18	33	4	...
		June	...	60·5	43·3	51·9	83·0	31·0	51·6	1·6	·340	89	...	20	3·54	0·55	6	3	4	5	6	3	1	0	14	24	...
		July	...	59·5	46·5	53·0	70·0	38·5	52·4	2·4	·330	84	...	24	3·57	0·66	26	1	2	0	0	1	12	8	26	12	...
		Aug.	...	59·0	45·9	52·5	67·0	39·0	51·8	2·6	·317	82	...	23	3·05	0·48	17	0	3	0	1	2	4	16	15	21	...
		Sept.	...	59·0	45·2	52·1	71·0	35·0	51·4	2·6	·314	83	...	24	2·06	0·68	2	0	4	0	5	6	3	8	9	25	...
		Oct.	...	51·9	37·5	44·7	62·0	22·0	44·3	2·2	·241	82	...	24	1·92	0·66	16	1	1	3	1	3	9	8	13	23	...
		Nov.	...	47·1	38·1	42·6	55·0	24·0	42·2	1·7	·233	88	...	17	3·63	0·90	28	0	0	4	21	20	6	0	4	5	...
		Dec.	...	40·9	32·6	36·8	53·0	16·0	37·0	1·7	·187	85	...	22	5·10	1·54	1	1	0	3	13	4	2	21	7	11	...
		1903																									
		Jan.	...	39·6	31·4	35·5	52·0	3·0	35·2	1·4	·179	87	...	17	2·80	0·95	9	2	0	1	9	7	8	15	9	11	...
		Feb.	...	46·5	36·2	41·4	58·0	28·5	40·4	2·4	·203	81	...	19	3·57	1·17	8	0	0	0	0	2	10	27	9	8	...
		Mar.	...	45·4	34·4	39·9	54·0	21·5	39·4	2·5	·193	80	...	26	2·17	0·22	18	0	0	1	8	11	14	20	4	4	...
		Apr.	...	46·1	33·2	39·6	59·5	25·0	38·8	1·9	·199	85	...	23	3·40	1·04	27	0	1	1	8	1	1	6	34	8	...
		May	...	56·2	39·0	47·6	74·0	29·5	46·3	2·4	·260	88	...	17	2·12	0·51	4	2	1	5	5	2	2	13	18	14	...
		June	...	60·0	43·5	51·8	75·0	28·0	50·1	2·4	·301	83	...	15	1·62	0·36	28	6	0	0	5	0	2	6	21	20	...
		July	...	60·8	47·0	53·9	72·0	33·0	52·7	2·5	·331	83	...	25	5·75	1·20	26	3	0	1	7	2	0	15	13	21	...
		Aug.	...	59·9	45·0	52·5	65·0	33·5	51·3	2·3	·319	84	...	25	3·40	0·63	14	0	0	1	4	1	5	22	16	13	...
		Sept.	...	57·8	43·1	50·4	66·0	26·0	48·9	1·7	·304	88	...	20	2·51	0·70	2	0	0	0	13	6	7	3	10	21	...
		Oct.	...	50·5	41·2	45·8	61·0	31·0	44·9	1·8	·256	87	...	29	5·46	1·05	27	2	2	6	7	7	10	9	6	13	...
		Nov.	...	44·8	33·9	39·4	53·0	20·0	38·4	1·6	·200	87	...	23	2·69	0·48	30	0	0	0	3	2	10	9	25	11	...
		Dec.	...	38·4	27·4	32·9	51·0	14·0	33·2	0·5	·179	94	...	25	2·99	0·71	13	1	1	5	11	5	9	2	5	23	...
		1902																									
HELENSBURGH II.,	300	Jan.	...	43·2	33·5	38·4	50·0	15·0	37·8	0·9	·208	93	...	22	3·18	0·64	1	...	...	...	...	...	...	...	...	...	...
(Dumbarton.)		Feb.	...	39·0	29·7	34·4	48·2	18·5	32·9	0·6	·176	93	...	14	2·25	0·43	24	...	...	...	...	...	...	...	...	...	...
J. R. WILSON, Water Super-		Mar.	...	47·2	36·6	41·9	54·2	25·1	41·1	1·5	·226	88	...	26	2·70	0·47	19	...	...	...	...	...	...	...	...	...	...
intendent.		Apr.	...	51·5	36·6	44·0	59·4	27·2	42·8	2·2	·229	83	...	14	1·43	0·29	21	...	...	...	...	...	...	...	...	...	...
		May	...	52·9	37·6	45·3	57·9	29·7	46·0	2·2	·261	85	...	20	2·62	0·49	17, 27	...	...	...	...	...	...	...	...	...	...
		June	...	60·3	46·6	53·4	80·2	36·0	51·7	1·8	·337	88	...	15	1·74	0·64	6	...	...	...	...	...	...	...	...	...	...
		July	...	61·4	47·7	51·6	70·7	38·1	53·9	2·1	·357	87	...	20	3·69	1·32	11	...	...	...	...	...	...	...	...	...	...
		Aug.	...	61·6	47·5	54·6	68·9	39·1	53·5	2·2	·348	85	...	16	3·06	0·56	18	...	...	...	...	...	...	...	...	...	...
		Sept.	...	59·2	47·0	53·1	66·0	33·2	52·3	1·7	·347	88	...	16	4·02	0·80	20	...	...	...	...	...	...	...	...	...	...
		Oct.	...	53·6	40·5	47·0	58·8	32·6	46·0	1·7	·272	88	...	17	1·98	0·31	25	...	...	...	...	...	...	...	...	...	...
		Nov.	...	48·3	39·5	43·9	56·9	30·0	43·4	1·3	·251	89	...	21	4·14	0·94	28	...	...	...	...	...	...	...	...	...	...
		Dec.	...	43·7	36·3	40·0	52·2	20·5	39·1	1·4	·211	89	...	20	5·12	1·66	1	...	...	...	...	...	...	...	...	...	...

		1903																									
		Jan.	...	40·5	32·3	36·4	50·0	18·5	35·6	1·2	·187	89	...	20	6·50	0·82	29	...	...	...	...	...	...	...	...	...	...
		Feb.	...	47·5	38·0	42·8	51·2	29·0	42·5	1·3	·243	90	...	22	5·57	1·56	8	...	...	...	...	...	...	...	...	...	...
		Mar.	...	45·7	35·5	40·6	51·6	29·9	39·7	1·1	·222	91	...	31	6·19	0·97	22	...	...	...	...	...	...	...	...	...	...
		Apr.	...	48·8	34·3	41·6	54·1	25·1	41·2	2·0	·217	85	...	12	1·18	0·50	3	...	...	...	...	...	...	...	...	...	...
		May	...	55·9	41·5	48·7	78·2	30·0	48·1	2·1	·284	85	...	16	2·80	0·55	4	...	...	...	...	...	...	...	...	...	...
		June	...	63·1	46·2	54·6	72·8	35·8	53·8	2·9	·335	80	...	11	2·89	0·57	27	...	...	...	...	...	...	...	...	...	...
		July	...	61·8	48·3	55·0	68·8	41·5	54·8	1·9	·376	88	...	19	4·21	0·77	4	...	...	...	...	...	...	...	...	...	...
		Aug.	...	60·6	48·3	54·5	65·0	41·7	53·8	1·8	·363	87	...	28	7·54	1·16	30	...	...	...	...	...	...	...	...	...	...
		Sept.	...	58·7	46·2	52·5	63·2	33·1	51·3	1·2	·347	92	...	17	3·82	0·79	23	...	...	...	...	...	...	...	...	...	...
		Oct.	...	52·1	42·5	47·3	60·6	33·0	47·0	1·5	·287	90	...	28	9·99	1·36	6	...	...	...	...	...	...	...	...	...	...
		Nov.	...	47·1	38·0	42·6	52·9	25·0	42·0	1·3	·239	90	...	20	2·95	0·56	27	...	...	...	...	...	...	...	...	...	...
		Dec.	...	40·8	32·8	36·8	51·9	24·0	36·5	0·6	·204	95	...	17	3·78	0·70	2	...	...	...	...	...	...	...	...	...	...
TRINITY, (Edinburgh.) ARCHD. MACDOWALL, Rait Lodge.		1902																									
	70	Jan.	...	42·5	35·4	39·0	51·8	21·6	38·4	1·2	·208	90	5·4	17	1·51	0·36	4	9	0	0	1	0	12	27	6	7	...
		Feb.	...	39·3	30·8	35·1	49·7	21·3	34·1	0·9	·179	90	5·9	12	1·14	0·87	28	11	7	7	9	5	3	2	5	7	...
		Mar.	...	48·1	38·4	43·2	55·1	31·5	42·2	1·6	·235	88	5·7	17	1·05	0·23	20	7	0	2	2	6	14	20	7	4	...
		Apr.	...	50·9	39·9	45·4	59·0	32·5	44·6	2·4	·241	82	4·6	16	1·40	0·36	3	8	10	8	2	13	5	8	4	2	...
		May	...	52·5	42·3	47·4	64·2	36·4	46·7	2·8	·255	81	6·6	21	2·37	0·71	31	26	9	2	2	0	4	16	3	0	...
		June	...	56·4	47·8	52·1	71·0	40·2	51·4	1·6	·338	90	7·6	17	2·48	0·64	7	8	19	10	6	5	4	2	2	4	...
		July	...	61·2	51·5	56·4	69·0	44·0	55·4	2·9	·358	82	7·2	19	3·40	1·50	26	15	2	3	0	3	12	16	9	2	...
		Aug.	...	60·3	50·9	55·6	66·2	44·6	54·5	2·5	·354	83	6·0	15	1·86	0·46	19	6	8	10	1	5	14	5	7	6	...
		Sept.	...	59·8	47·3	53·6	70·0	33·2	53·1	1·8	·354	87	6·2	19	1·25	0·30	4	3	3	5	4	8	8	15	6	8	...
		Oct.	...	54·8	42·1	48·5	57·8	31·1	48·0	2·1	·283	85	6·2	18	1·39	0·23	17, 20	7	8	4	2	7	12	7	6	9	...
		Nov.	...	50·6	42·0	46·3	57·7	32·7	44·4	1·8	·253	87	5·7	17	1·20	0·27	9	0	0	8	24	9	11	5	1	2	...
		Dec.	...	43·7	37·3	40·5	53·9	22·2	40·0	1·7	·213	86	6·0	15	1·95	0·50	14	8	3	10	10	2	8	22	2	2	...
		1903																									
		Jan.	...	40·6	33·3	37·0	52·2	21·0	37·0	1·1	·198	90	5·5	15	3·85	1·67	10	5	1	4	10	9	13	13	0	7	...
		Feb.	...	48·1	39·2	43·6	55·0	33·0	43·0	1·9	·236	85	5·8	17	4·55	2·43	9	1	3	2	1	5	28	14	2	0	...
		Mar.	...	47·2	38·1	42·6	55·4	32·0	41·9	2·0	·226	86	5·8	24	4·35	0·98	23	2	1	1	3	13	16	19	3	4	...
		Apr.	...	48·0	38·0	43·0	54·5	30·9	42·6	2·7	·217	80	5·6	16	1·25	0·38	30	17	8	7	2	1	6	5	13	1	...
		May	...	53·8	44·8	49·3	64·4	38·1	48·5	2·6	·280	82	6·4	15	1·35	0·65	6	8	23	6	1	1	12	8	0	3	...
		June	...	59·6	50·4	55·0	72·5	44·1	54·0	3·3	·326	78	7·0	12	1·60	0·88	5	13	15	10	4	4	10	1	2	1	...
		July	...	62·6	52·7	57·6	71·2	47·0	56·9	2·7	·384	83	6·4	20	4·40	1·55	18	11	8	4	2	5	8	14	9	1	...
		Aug.	...	60·9	51·5	56·2	64·8	45·7	55·6	2·2	·377	85	5·2	20	3·80	0·85	2	1	2	1	2	8	14	23	7	2	...
		Sept.	...	57·9	49·1	53·5	64·0	38·4	52·7	1·5	·356	89	5·3	14	2·70	0·88	2	5	0	16	4	12	6	5	4	8	...
		Oct.	...	52·1	44·8	48·5	61·3	36·8	48·0	1·2	·304	92	6·3	17	5·70	1·10	7	4	2	7	6	17	9	9	3	5	...
		Nov.	...	45·9	39·2	42·6	53·5	27·8	42·2	1·4	·239	90	4·1	12	1·55	0·60	28	10	0	0	2	6	14	16	5	7	...
		Dec.	...	40·7	33·9	37·3	53·5	25·7	37·3	1·0	·203	92	6·2	16	1·20	0·30	14	2	0	3	19	11	3	5	0	19	...
LISSAN, (Tyrone.) J. H. STAPLES.		1902																									
	305	Jan.	29·779	43·8	33·9	38·8	51·0	14·0	38·9	1·3	·212	90	...	22	3·11	0·46	26	6	0	8	0	1	0	41	6	0	1·2
		Feb.	29·533	40·7	30·3	35·5	51·0	11·0	35·8	0·6	·199	95	...	14	3·28	1·35	7	1	0	28	9	5	2	7	4	0	1·3
		Mar.	29·448	48·7	37·3	43·0	57·0	28·0	42·6	1·5	·240	88	...	26	2·77	0·79	24	4	0	4	1	1	3	45	4	0	1·6
		Apr.	29·628	52·2	36·6	44·4	58·0	28·0	44·7	2·2	·247	84	...	18	3·11	0·56	22	9	3	17	3	2	4	18	4	0	1·6
		May	29·710	53·5	39·1	46·3	65·0	32·0	46·7	3·1	·249	79	...	24	4·46	1·10	30	21	6	4	0	0	2	22	7	0	1·5
		June	29·619	61·9	48·3	55·1	78·0	41·0	54·8	2·6	·357	83	...	21	2·94	0·80	19	10	4	6	13	7	2	·9	9	0	1·4

RETURNS from STATIONS connected with the MEDICAL DEPARTMENT, and from ADDITIONAL STATIONS in connection with the SOCIETY, during the Years 1902 and 1903—*Contd.*

STATIONS AND OBSERVERS' NAMES.	Height above Sea-Level.	Months.	BAROMETER.	AIR TEMPERATURE.					HYGROMETER. Mean at 9 a.m. and 9 p.m.				CLOUD	RAIN.				WIND DIRECTION. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCES. Scale of 0-12.
			Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean Max. A.	Mean Min. B.	Mean of A and B.	Highest.	Lowest.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.	Scale 0-10.	No. of Days.	Total Fall.	Most in a Day. Amount.	Most in a Day. Day of Month.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	
	ft.	1902		in.	in.	in.	in.	in.	°	°	°				in.	in.											
LISSAN (Tyrone)—*continued.*	305	July	29·734	62·3	48·6	55·5	70·0	38·0	55·1	2·5	·364	84	...	22	3·75	1·35	25	8	3	3	0	0	1	34	13	0	1·8
		Aug.	29·630	62·7	48·1	55·4	70·0	40·0	54·7	2·3	·363	85	...	20	3·29	0·78	18	5	3	5	3	1	3	36	6	0	1·2
		Sept.	29·752	61·8	46·7	54·2	69·0	38·0	53·7	1·7	·367	89	...	18	2·74	1·01	2	11	5	1	2	6	2	27	6	0	1·2
		Oct.	29·693	53·9	42·7	48·3	60·0	32·0	48·6	2·3	·294	86	...	12	2·21	0·59	15	12	4	7	2	1	1	31	4	0	1·5
		Nov.	29·475	48·8	38·1	43·4	55·0	28·0	43·9	1·2	·260	91	...	21	4·15	0·59	11	0	0	15	8	4	2	22	9	0	1·3
		Dec.	29·673	44·5	36·2	40·4	53·0	22·0	40·6	1·2	·227	90	...	18	3·91	0·68	1, 29	1	2	14	2	1	0	36	6	0	1·5
		1903																									
		Jan.	29·488	42·2	33·1	37·6	52·0	19·0	37·3	1·3	·197	89	...	23	6·91	1·06	9	6	0	14	2	4	3	33	0	0	1·4
		Feb.	29·590	48·9	38·2	43·6	55·0	27·0	43·1	1·6	·244	87	...	23	3·74	0·67	26	3	0	0	0	0	1	48	4	0	1·9
		Mar.	29·294	47·7	35·8	41·8	55·0	29·0	40·9	1·9	·216	85	...	28	5·78	0·74	22	1	7	2	1	1	2	37	11	0	1·5
		Apr.	29·622	49·8	36·4	43·1	56·0	28·0	43·0	1·8	·238	86	...	16	1·73	0·39	14	10	5	11	3	2	1	16	12	0	1·4
		May	29·607	57·5	43·0	50·3	72·0	33·0	50·8	3·3	·290	78	...	18	2·28	0·52	29	12	3	22	0	2	1	17	5	0	1·4
		June	29·807	62·5	47·2	54·9	71·0	38·0	53·7	2·7	·338	82	...	11	1·64	0·95	22	10	5	14	1	14	0	11	5	0	1·3
		July	29·626	64·2	48·7	56·5	70·0	43·0	56·8	2·4	·391	84	...	18	4·38	1·26	14	6	0	6	0	4	1	41	4	0	1·3
		Aug.	29·470	62·4	47·3	54·9	67·0	38·0	55·2	2·5	·365	84	...	31	5·91	0·95	14	1	0	3	0	1	1	49	7	0	1·4
		Sept.	29·664	60·4	46·3	53·4	66·0	33·0	53·4	2·2	·347	85	...	16	3·49	0·95	10	5	0	9	8	7	4	25	2	0	1·4
		Oct.	29·205	53·3	41·8	47·6	61·0	32·0	47·1	1·5	·288	89	...	30	6·56	0·80	6	2	0	3	3	4	0	48	2	0	1·3
		Nov.	29·742	48·7	36·3	42·5	57·0	26·0	42·6	2·6	·219	81	...	22	3·03	0·44	27	11	0	0	0	0	0	40	9	0	1·2
		Dec.	29·400	42·0	33·4	37·7	51·0	22·0	38·2	0·5	·220	96	...	21	3·84	0·56	12	6	0	26	1	0	0	26	3	0	1·1
		1902																									
LLANDUDNO, (Carnarvon.) WILLIAM LITTLE.	21	Jan.	30·020	46·8	39·2	43·0	53·5	27·0	42·8	2·3	·227	83	7·0	22	2·32	0·31	3, 10	7	1	1	2	0	11	27	13	0	3·8
		Feb.	29·823	42·8	33·7	38·3	59·2	23·5	37·4	2·2	·182	82	6·8	15	1·64	0·45	10	4	1	9	5	11	5	11	10	0	3·5
		Mar.	29·769	50·2	40·7	45·5	56·5	34·0	45·2	2·8	·239	80	7·3	25	2·18	0·40	24	4	0	0	1	2	12	28	15	0	3·8
		Apr.	29·917	52·8	40·4	46·6	65·0	32·0	46·6	3·7	·235	78	7·0	16	2·02	0·49	4	1	2	18	5	12	5	11	6	0	3·9
		May	29·969	53·8	44·0	48·9	62·8	38·0	48·6	3·4	·262	76	7·4	25	2·98	0·80	22	14	8	4	0	0	9	15	11	1	3·1
		June	29·873	63·8	51·8	57·8	81·0	44·5	57·2	3·8	·359	76	6·6	19	1·75	0·33	29	6	6	13	4	18	7	6	5	0	3·2
		July	29·998	64·6	52·5	58·6	73·5	44·5	57·4	3·5	·370	78	6·9	17	1·54	0·47	26	3	2	2	1	4	10	27	11	2	3·4
		Aug.	29·878	64·2	52·4	58·3	70·0	43·5	57·8	3·1	·389	81	6·9	19	1·96	0·48	5	2	1	11	2	6	12	17	6	5	2·9
		Sept.	30·022	61·2	49·2	55·2	74·0	39·5	54·7	3·3	·338	78	5·8	17	1·50	0·33	23	0	4	8	1	9	13	14	7	4	3·2
		Oct.	29·952	55·2	47·9	51·6	61·2	40·0	51·3	2·5	·315	83	7·9	19	2·91	0·90	9	1	3	19	0	0	5	23	11	0	3·9
		Nov.	29·781	50·7	42·6	46·6	59·0	31·8	46·2	2·6	·255	82	6·4	23	1·65	0·56	28	1	0	9	11	16	14	7	2	0	2·9
		Dec.	29·948	47·3	38·9	43·1	59·0	23·2	42·6	2·2	·227	84	7·4	16	2·65	0·63	14	2	0	14	4	7	7	16	12	0	3·8
		1903																									
		Jan.	29·804	45·8	37·2	41·5	56·0	23·8	41·4	2·5	·210	80	5·8	19	4·49	0·71	5	1	5	6	6	9	22	13	0	0	4·0
		Feb.	29·928	50·7	42·1	46·4	57·0	34·8	45·9	2·6	·252	82	6·2	18	3·43	0·74	21	2	0	0	1	4	23	21	3	2	4·0
		Mar.	29·610	50·7	40·8	45·8	59·2	33·2	45·8	2·8	·246	80	6·5	25	4·31	0·78	17	1	1	1	0	13	22	20	4	0	4·0
		Apr.	29·832	50·0	40·0	45·0	56·0	31·0	45·2	3·5	·226	75	5·5	12	1·28	0·36	30	10	2	13	2	1	8	14	10	0	3·0
		May	29·814	57·8	46·0	51·9	73·0	33·5	51·9	3·5	·299	77	5·6	17	1·70	0·40	3	3	5	14	3	8	8	10	6	5	3·0
		June	30·012	62·0	50·0	56·0	70·0	42·5	56·0	4·4	·331	73	5·4	9	1·11	0·38	15	7	9	16	2	6	7	5	4	4	3·4

		July	29·858	65·4	54·0	59·7	78·0	49·0	59·2	3·5	·397	79	6·8	19	2·56	0·41	14	2	0	4	1	6	14	20	12	3	3·2
		Aug.	29·748	64·4	53·2	58·8	71·0	48·0	58·0	3·4	·388	79	6·8	21	3·51	0·71	17	4	2	1	1	4	16	23	8	3	3·6
		Sept.	29·907	63·0	50·6	56·8	69·0	39·0	56·5	3·3	·363	79	6·4	17	4·07	1·14	10	5	2	8	4	11	12	9	5	4	3·2
		Oct.	29·473	56·2	48·4	52·3	62·0	41·0	52·0	3·0	·310	80	6·8	29	5·43	0·92	27	1	2	3	0	11	18	21	5	1	3·9
		Nov.	29·980	51·2	40·0	45·6	59·0	32·0	46·4	2·4	·260	83	6·6	22	3·89	0·85	27	8	5	4	1	1	6	22	10	3	4·0
		Dec.	29·642	45·1	37·3	41·2	56·2	27·5	41·2	2·0	·217	85	6·7	18	2·71	0·90	3	8	3	18	1	4	12	10	2	4	3·3
		1902																									
HEBRON, (Palestine.) Lat. 31° 31′ N. Long. 35° 8′ E. Dr. Alexander Paterson.	2900	Jan.	27·020	50·8	37·5	44·2	66·0	32·0	42·8	1·8	·236	86	6·2	18	7·84	1·63	19	4	3	8	1	0	2	23	20	1	3·6
		Feb.	27·072	64·2	41·8	53·0	79·9	34·0	51·1	4·5	·267	72	3·7	7	1·70	1·06	25	10	5	2	3	3	1	7	25	0	2·5
		Mar.	26·940	61·2	41·7	51·5	75·5	32·9	51·2	5·4	·249	66	5·0	11	1·13	0·34	15	4	4	3	10	2	4	18	17	0	3·6
		Apr.	26·916	69·9	47·2	58·6	93·4	36·4	58·7	7·7	·290	58	...	6	1·19	0·65	13	20	2	15	0	2	5	11	4	1	3·8
		May	26·995	79·4	54·4	66·9	95·6	46·9	65·8	10·7	·315	49	...	2	0·22	0·18	18	19	9	12	0	3	0	9	8	0	3·6
		June	26·920	81·5	51·7	66·6	89·2	44·0	68·1	9·9	·366	53	0·2	0	0·00	0·00	...	7	5	0	0	0	1	9	38	0	3·2
		July	26·882	84·6	57·1	70·8	92·5	50·9	72·4	11·0	·406	51	0·6	0	0·00	0·00	...	3	4	3	0	0	2	6	44	0	3·6
		Aug.	26·898	87·9	59·9	73·9	96·0	53·0	74·8	9·5	·491	57	0·4	0	0·00	0·00	...	3	0	1	0	0	2	4	51	1	3·2
		Sept.	26·976	88·0	59·7	73·8	100·5	44·9	74·2	13·2	·380	45	0·8	0	0·00	0·00	...	4	1	6	5	1	0	5	38	0	3·4
		Oct.	27·068	80·2	54·5	67·4	95·5	45·4	67·2	10·8	·332	49	1·1	3	0·69	0·35	17	21	6	10	1	2	5	5	8	4	3·4
		Nov.	27·014	65·0	47·0	56·0	83·2	34·7	55·4	4·4	·322	73	3·0	11	4·74	1·90	15	13	6	29	3	1	3	4	1	0	3·5
		Dec.	27·054	53·8	39·3	46·6	66·6	31·9	45·8	2·6	·250	81	4·5	12	6·20	2·73	12	12	3	28	1	3	0	11	4	0	3·7
		1903																									
(Observations taken at 8 A.M and 7 P.M.)		Jan.	27·084	49·5	36·1	42·8	67·5	28·0	42·2	1·7	·233	88	6·0	17	8·54	1·63	19	11	4	14	1	2	1	10	19	0	3·2
		Feb.	27·112	53·6	36·6	45·1	64·8	30·0	43·8	2·0	·243	84	4·4	11	3·10	0·96	23	8	3	3	0	1	4	11	26	0	2·3
		Mar.	27·001	57·5	39·5	48·5	72·7	33·0	48·2	2·9	·268	80	5·2	13	3·78	1·11	8	...	...	...	...	...	...	...	...	...	...
		Apr.	26·938	72·0	46·9	59·5	90·6	33·0	59·2	7·2	·306	60	5·0	4	0·15	0·05	29	9	3	6	6	4	4	6	22	0	2·6
		May	26·952	82·2	52·7	67·5	100·0	40·5	68·0	12·6	·304	44	2·0	0	0·00	0·00	...	14	6	10	3	0	0	4	25	0	2·2
		June	26·920	82·7	53·9	68·3	98·0	42·9	68·6	12·0	·325	47	0·2	0	0·00	0·00	...	4	3	1	1	1	1	10	39	0	2·9
		July	26·900	84·0	55·9	70·0	89·8	47·8	69·8	8·3	·435	60	0·1	0	0·00	0·00	...	9	0	0	0	0	0	6	47	0	3·2
		Aug.	26·871	85·4	56·9	71·2	90·5	52·0	70·7	7·7	·467	62	0·1	0	0·00	0·00	...	14	0	0	1	1	1	6	38	1	3·0
		Sept.	26·974	82·4	56·4	69·4	90·9	45·2	66·8	5·3	·471	72	0·1	0	0·00	0·00	...	10	0	3	1	2	1	7	36	0	3·0
		Oct.	27·052	77·3	49·3	63·3	90·9	40·9	62·2	5·7	·384	69	0·1	1	0·07	0·07	13	10	6	4	1	3	2	3	33	0	2·2
		Nov.	27·080	65·8	45·2	55·5	85·2	36·6	52·5	4·3	·287	72	3·4	6	1·30	0·59	25	6	5	6	3	2	0	12	26	0	2·2
		Dec.	27·053	60·0	42·2	51·1	70·9	33·2	48·5	2·1	·290	85	3·5	7	2·71	0·83	12	11	2	6	3	0	2	16	22	0	1·9
		1903																									
CHRISTMAS ISLAND, Lat. 10° 25′ S. Long. 105° 43′ E. W. S. Anderson, F.C.S.	18	Apr.	29·827	87·6	75·3	81·4	89·6	72·5	78·6	1·9	·880	91	4·5	23	7·52	1·53	21	0	3	10	3	0	2	3	0	39	0·8
		May	29·845	86·6	75·2	80·9	90·5	72·5	78·7	1·9	·883	90	4·2	20	11·01	3·58	26	0	21	11	1	0	0	0	0	29	1·5
		June	29·858	88·0	74·7	81·3	90·1	72·6	78·5	3·1	·820	84	3·0	7	1·09	0·52	30	0	7	27	0	0	0	0	0	26	1·0
		July	29·871	87·6	73·6	80·6	89·6	70·0	77·5	3·9	·754	80	3·4	11	0·72	0·25	22	0	7	32	1	0	0	0	0	22	1·4
		Aug.	29·928	88·5	73·4	81·0	89·9	70·6	78·2	5·9	·690	71	4·4	6	0·14	0·04	2, 3	0	0	41	1	0	0	0	0	20	1·4
		Sept.	29·917	87·9	72·8	80·3	90·7	70·0	78·2	5·5	·707	73	3·9	7	1·09	0·38	14	0	0	42	1	0	0	0	0	17	1·4
		Oct.	29·884	88·9	75·0	81·9	92·2	70·9	80·2	6·0	·738	71	4·4	9	1·07	0·64	30	0	0	30	15	0	0	0	0	17	1·8
		Nov.	29·857	87·5	74·5	81·0	91·6	72·8	79·3	4·3	·788	78	4·6	17	15·61	3·50	22	0	1	13	6	0	0	1	2	37	0·8
		Dec.	29·793	85·6	73·2	79·4	89·3	69·3	76·5	2·7	·783	85	4·6	16	7·01	3·06	3	2	3	4	9	5	13	3	1	22	1·5

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 31st MARCH 1902.

By Dr **Buchan**, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 65 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56°·33 N. ; MEAN LONGITUDE = 3°·45 W.; AND MEAN ELEVATION = 279 Feet.

1902.	BAROMETER.		SELF-REGISTERING THERMOMETERS.							BLACK BULB IN SUN.		ON GRASS DURING NIGHT	
	At Sea-level and 32°.	Monthly Range.	Highest.	Lowest.	Monthly Range.	Mean of Day.	Mean of Night.	Mean Daily Range.	Mean Temp.	Highest.	Mean.	Lowest.	Mean.
	inch.	inch.	°	°	°	°	°	°	°	°	°	°	°
Jan.	29·950	2·168	57·0	2·0	55·0	43·1	32·5	10·6	37·8	97·0	52·0	−3·0	28·4
Feb.	29·854	1·703	54·6	−1·0	55·6	39·4	28·8	10·6	34·1	102·0	55·4	−2·6	25·1
Mar.	29·657	1·228	62·0	18·3	43·7	47·8	35·6	12·2	41·7	115·0	72·7	12·5	31·3

1902.	HYGROMETER.		DEDUCTIONS			WINDS.										RAIN.		Cloud	
	Dry Bulb.	Wet Bulb.	Dew-point.	Elas. force Vap.	Hum. Sat.=100.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force	Days.	Amt. in Inch.	0–10.	Sunshine.
	°	°	°	inch											lbs.				hours
Jan.	37·6	35·8	33·3	·191	84	3	1	1	1	2	6	11	4	2	2·89	18	3·36	6·6	45
Feb.	33·9	32·4	29·8	·165	84	3	3	4	4	3	4	3	2	2	1·58	12	1·54	7·0	58
Mar.	41·2	39·1	36·5	·215	84	3	1	2	2	3	8	8	3	1	2·24	20	2·82	6·6	93

1902.	UNDERGROUND TEMPERATURE.						Well or Spring.	SEA.				Ozone.	Lightning seen or Thunder heard.		Auroras seen.	
								Firths.		Open Coast.						
	3 inches.	12 inches.	18 inches.	22 inches.	36 inches.	48 inches.		Temp	Dens.	Temp	Dens.		No. of Stations.	Mean No. of Days.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°	°	°	°	°	°						
Jan.	37·5	38·1	...	39·0	41·2	42·0	42·5	...	...	39·0	...	2·8	4	2	1	1
Feb.	33·1	34·0	...	35·5	38·5	39·7	42·6	...	...	39·0	...	3·0	0	0	4	1
Mar.	40·0	40·7	...	40·8	...	...	42·6	...	...	44·0	...	3·8	4	1	0	0

And when these results are compared with the averages of 1856–1900, during the same months, they show the following characteristics and differences :—

JANUARY 1902—

Mean Barometric Pressure, 29·950 inches ; greater than the average of 1856–1900 by 0·154 inch.
Monthly Range, 2·168 inches ; greater by 0·541 inch.
Mean Temperature, 37°·8 ; greater by 0°·6.
Mean Daily Range, 10°·6 ; greater by 1°·4.
Mean of Black Bulb in Sun, 52°·0 ; greater by 2°·7.
Do. at Night, 28°·4 ; less by 0°·1.
Mean Humidity, 84 ; less by 3·6.
Rain, Number of Days, 18 ; greater by 1.
Rain, Depth in Inches, 3·36 ; less by 0·50 inch.
Wind, Pressure on Square Foot, 2·89 lbs. ; greater by 0·74 lb.
Wind, Direction of, E. to W. as 2 to 16, and N. to S. as 6 to 6 ; in place of E. to W. as 5 to 11, and N. to S. as 5 to 8.
Hours of Sunshine, 45 ; less by 6 hours.
Mean Amount of Cloud, 6·6 ; being the average.

FEBRUARY 1902—

Mean Barometric Pressure, 29·854 inches ; greater than the average of 1856–1900 by 0·004 inch.
Monthly Range, 1·703 inch ; greater by 0·230 inch.
Mean Temperature, 34°·1 ; less by 4°·2.
Mean Daily Range, 10°·6 ; greater by 0°·4.
Mean of Black Bulb in Sun, 55°·4 ; less by 1°·8.
Do. at Night, 25°·1 ; less by 3°·9.
Mean Humidity, 84 ; less by 2·8.
Rain, Number of Days, 12 ; less by 3 days.
Rain, Depth in Inches, 1·54 ; less by 1·51 inch.
Wind, Pressure on Square Foot, 1·58 lb. ; less by 0·55 lb.
Wind, Direction of, E. to W. as 8 to 6, and N. to S. as 6 to 7 ; instead of E. to W. as 5 to 10, and N. to S. as 6 to 7.
Hours of Sunshine, 58 ; less by 18 hours.
Mean Amount of Cloud, 7·0 ; greater by 0·58.

MARCH 1902—

Mean Barometric Pressure, 29·657 inches ; less than the average of 1856–1900 by 0·165 inch.
Monthly Range, 1·228 inch ; less by 0·205 inch.
Mean Temperature, 41°·7 ; greater by 2°·3.
Mean Daily Range, 12·2 ; being the average.
Mean of Black Bulb in Sun, 72°·7 ; greater by 7°·0
Do. at Night, 31°·3 ; greater by 1°·9.
Mean Humidity, 84 ; less by 1·1.
Rain, Number of Days, 20 ; greater by 5 days.
Rain, Depth in Inches, 2·82 ; less by 0·02 inch.
Wind, Pressure on Square Foot, 2·24 lbs. ; greater by 0·09 lb.
Wind, Direction of, E. to W. as 4 to 14, and N. to S. as 5 to 8 ; instead of E. t W. as 6 to 10, and N. to S. as 6 to 7.
Hours of Sunshine, 93 ; less by 23 hours.
Mean Amount of Cloud, 6·6 ; greater by 0·30.

JANUARY 1902—

Hence the weather of JANUARY 1902 was characterized by a high mean barometric pressure, with an exceptionally high monthly range ; a mean temperature about half a degree above the average, with a remarkably high mean daily range ; a very low humidity ; a mean rainfall half an inch under the average, falling on one more day than the average number ; a very large excess of strong westerly winds.

The mean barometric pressure was 29·950 inches or 0·154 inch above the average. The mean pressure diminished more rapidly than the average from South to North and on a greater gradient from West to East. The month was very notable for an anticyclone of extraordinary intensity which lay over the British Islands with a maximum pressure on the 31st. On the evening of that day the mercury rose above 31·000 inches in Scotland and in the North East slightly above 31·100 inches. During another anticyclone earlier in the month the high pressure of 30·900 inches was recorded on the 14th. These anticyclones were both preceded by gales of considerable strength from N.W. and both accompanied by high winds.

The mean temperature was 37°·8 or 0°·6 above the average, the excess being due entirely to high day temperatures, for the mean night temperature was hardly equal to the average. Along the edge of the Moray Firth and very generally south of a line drawn from Montrose to Airds the temperature was above the average ; but in the North, West, on the Grampians, and about Aberdeen, deficiencies in several cases exceeded a degree. The absolutely highest temperature was 57°·0 at Airds on the 7th, and the lowest 2°·0 at Lairg on the 31st. The coldest weather was from the 11th to the 15th and during the last week.

The mean rainfall was 3·36 inches, or 13 per cent. below the average. In certain districts, however, the deficiency was very great : in the South it was over 30 per cent., on the Borders about 40, in Midlothian 50, in Perthshire and Forfarshire from 50 to 70 and in Aberdeenshire about 30. In the Glasgow district also the rainfall was defective, but at about one fourth of the stations there was an excess. This was considerable in Ayrshire and Arran, at some inland stations in the West, and was also well-marked at Stornoway and in the Shetlands.

The weather of the month was, on the whole, very changeable. The driest periods were from the 12th to 18th and after the 25th. Snow fell very generally on the 12th and on 23rd and 24th.

[*Continued on page* 96.

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
NORTH UNST, (Shetland.)	230	Jan.	29·402	29·660	2·460	...	...	...	...	...	...	...
Principal Keeper of the Lighthouse.		Feb.	29·558	29·816	1·809	...	...	...	...	...	...	...
		Mar.	29·277	29·530	1·610	...	...	...	...	...	...	...
LERWICK, (Shetland.)	30	Jan.	29·662	29·697	2·404	50·0	20·0	30·0	45·4	32·6	12·8	39·0
G. Allison, Harbour Master.		Feb.	29·789	29·822	1·780	45·5	23·5	22·0	41·8	34·3	7·5	38·1
		Mar.	29·496	29·529	1·760	49·5	31·5	18·0	45·7	36·6	9·1	41·1
DEERNESS, (Orkney.)	172	Jan.	29·617	29·810	2·264	50·4	22·8	27·6	42·2	34·7	7·5	38·5
M. Spence, Schoolhouse.		Feb.	29·626	29·819	1·734	43·6	23·3	20·3	38·0	32·6	5·4	35·3
		Mar.	29·379	29·558	1·589	48·8	29·8	19·0	44·2	36·1	8·1	40·2
KIRKWALL, (Orkney.)	30	Jan.	29·779	29·813	2·129	50·0	25·0	25·0	43·6	35·2	8·4	39·4
J. W. Cursitor, Merchant.		Feb.	29·798	29·831	1·736	46·0	24·5	21·5	39·2	31·2	8·0	35·2
		Mar.	29·536	29·568	1·564	51·0	29·0	22·0	45·0	36·3	8·7	40·6
DUNROBIN, (Sutherland.)	16	Jan.	29·854	29·872	2·184	52·2	15·0	37·2	43·2	31·6	11·6	37·4
D. Melville, Gardener,		Feb.	29·810	29·826	1·706	48·0	18·0	30·0	39·8	29·5	10·3	34·7
Dunrobin Castle.		Mar.	29·568	29·585	1·360	58·5	25·0	33·5	47·0	33·2	13·8	40·1
LAIRG, (Sutherland.)	390	Jan.	29·433	29·881	2·140	50·2	2·0	48·2	41·4	28·6	12·8	35·0
Rev. Donald Macrae.		Feb.	...	...	...	...	...	...	...	...	...	...
		Mar.	...	...	...	...	...	...	...	...	...	...
GLENCARRON, (Ross.)	504	Jan.	29·366	29·932	2·162	56·5	12·9	43·6	41·5	31·5	10·0	36·5
D. D. Munro.		Feb.	29·270	29·834	1·693	52·4	10·9	41·5	39·2	29·1	10·1	34·2
		Mar.	29·070	29·626	1·254	52·0	22·4	29·6	45·3	34·7	10·6	40·0
STORNOWAY, (Ross Isle of Lewis.)	56	Jan.	29·803	29·866	2·140	53·0	17·0	36·0	44·7	33·0	11·7	38·8
Principal Keeper of the Lighthouse.		Feb.	29·750	29·813	1·770	50·3	17·0	33·3	42·6	31·7	10·9	37·2
		Mar.	29·517	29·580	1·270	53·3	25·4	27·9	47·6	35·9	11·7	41·8
MONACH, (Hebrides.)	150	Jan.	29·738	29·906	2·400	...	...	...	...	...	...	...
James Black, Principal		Feb.	29·624	29·792	1·308	...	...	...	...	...	...	..
Keeper of the Lighthouse.		Mar.	29·431	29·697	1·270	...	...	...	...	...	...	...
KINGUSSIE, (Inverness.)	828	Jan.	29·012	29·935	2·028	49·2	4·5	44·7	40·9	27·8	18·1	34·3
Walter de Watteville, M.D.		Feb.	28·944	29·867	1·617	50·5	2·9	47·6	38·5	24·5	14·0	31·5
and J. Campbell.		Mar.	28·738	29·644	1·181	53·5	20·0	33·5	46·2	32·3	13·9	39·2
INVERNESS, (Inverness.)	114	Jan.	29·792	29·920	2·158	51·7	14·3	37·4	42·9	34·0	8·9	38·4
Thos. Wallace, High School.		Feb.	29·715	29·844	1·708	51·3	12·1	39·2	40·9	29·9	11·0	35·4
		Mar.	29·500	29·628	1·254	56·0	26·7	29·3	48·3	36·9	11·4	42·6
FORT AUGUSTUS, (Inverness.)	73	Jan.	29·865	29·948	2·254	50·9	8·8	42·1	42·2	31·4	10·8	36·8
Rev. Cyril von Dieckhoff,		Feb.	29·759	29·842	1·769	54·0	9·0	45·0	41·0	28·3	12·7	34·6
St Benedict's Priory.		Mar.	29·553	29·685	1·244	53·7	21·9	31·8	47·7	35·3	12·4	41·5
ACHARIACH, (Inverness)	150	Jan.	29·801	29·968	2·276	53·5	6·3	47·2	43·0	33·3	9·7	38·2
R. C. Mossman, F.R.S.E.,		Feb.	29·670	29·839	1·772	51·5	7·7	43·8	40·5	28·8	11·7	34·6
		Mar.	...	...	...	...	...	...	...	...	...	...
FORT WILLIAM, (Inverness.)	42	Jan.	29·922	29·969	2·238	51·2	10·6	40·6	42·8	32·8	10·0	37·8
R. T. Omond, F.R.S.E., and Angus		Feb.	29·792	29·839	1·791	54·6	11·2	43·4	41·1	29·8	11·3	35·4
Rankin.		Mar.	29·608	29·655	1·214	53·0	24·9	28·1	47·7	36·6	11·1	42·1
GORDON CASTLE, (Banff.)	107	Jan.	29·771	29·891	2·090	51·5	9·0	42·5	43·5	32·0	11·5	38·0
C. Webster, Gardener to the Duke		Feb.	29·719	29·840	1·639	54·5	9·5	45·0	40·1	29·4	10·7	34·7
of Richmond and Gordon.		Mar.	29·504	29·623	1·363	60·5	28·0	32·5	48·8	35·9	12·9	42·3

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
							inch.											lbs.	days	inch
...	...	...	...	38·9	...	...	...	...	8	1	1	0	1	5	8	7	0	9·30	23	...
...	...	...	...	37·4	...	...	...	...	5	5	0	3	8	4	1	2	0	5·47	12	...
...	...	...	...	40·0	...	...	...	...	4	5	1	4	6	3	7	1	0	5·52	14	...
...	...	...	...	39·5	37·9	35·8	·211	87	10	1	0	0	3	5	8	4	0	8·29	22	4·24
...	...	...	...	37·5	36·2	34·4	·199	89	6	1	2	0	1	13	1	3	1	6·25	10	2·13
...	...	...	...	41·2	38·9	36·1	·212	82	7	1	3	3	8	4	4	1	0	5·15	26	4·70
...	...	...	...	38·6	37·0	34·9	·203	87	1	1	1	1	4	7	10	6	0	5·38	20	3·28
...	...	...	...	35·8	34·3	32·1	·183	87	4	3	2	3	9	3	1	3	0	3·61	14	2·25
...	...	...	...	40·2	38·6	36·6	·206	88	5	1	1	4	7	6	4	3	0	2·62	23	3·05
...	...	...	...	39·4	37·6	35·4	·206	86	4	0	1	0	1	6	14	5	0	4·66	23	3·80
...	...	...	...	35·1	33·4	30·7	·171	83	4	2	3	3	6	2	2	4	2	1·25	7	1·26
...	...	...	...	40·3	39·0	37·3	·223	90	5	0	2	4	5	4	8	3	0	1·59	21	3·73
...	...	...	...	37·2	35·2	32·4	·184	83	8	2	5	2	1	0	7	6	0	...	17	2·18
...	...	...	...	35·0	33·4	30·8	·172	84	4	3	3	7	0	0	3	8	0	...	11	1·10
...	...	...	...	40·5	38·2	35·3	·206	82	2	3	2	3	1	4	6	10	0	...	17	2·41
...	...	...	...	34·1	33·4	32·2	·183	92	4	0	0	0	0	1	11	3	12	0·42	24	3·97
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	35·9	34·4	32·1	·184	87	7	0	3	0	0	1	18	1	1	4·12	27	12·42
...	...	...	...	33·9	32·4	29·8	·165	84	12	0	7	0	0	0	7	0	2	3·42	12	2·25
...	...	...	...	39·5	37·8	35·5	·209	86	5	0	4	0	0	0	22	0	0	4·06	26	12·35
...	...	...	...	38·8	37·7	36·3	·215	91	2	2	1	1	1	5	12	5	2	4·08	29	5·64
...	...	...	...	37·0	35·9	34·4	·198	90	4	2	2	3	3	5	2	3	4	3·53	19	3·92
...	...	...	...	41·8	40·3	38·4	·234	88	2	2	1	2	2	6	8	6	2	3·68	26	5·22
...	...	...	...	42·0	...	...	...	...	4	1	3	2	4	5	10	2	0	9·24	15	3·36
...	...	...	...	39·5	...	...	...	...	6	3	2	2	11	1	2	1	0	6·15	10	1·53
...	...	...	...	43·5	...	...	...	...	2	4	1	2	4	5	10	2	1	6·30	16	3·65
...	...	...	...	34·0	32·8	30·7	·172	87	1	0	0	0	2	14	8	6	0	...	13	2·37
...	...	...	...	31·9	31·1	29·3	·161	90	1	4	0	0	0	15	4	4	0	...	2	0·67
...	...	...	...	38·7	36·9	34·5	·200	86	2	1	0	0	0	20	3	5	0	...	14	2·24
62·3	48·7	10·0	31·0	38·7	36·7	34·0	·197	85	2	0	0	0	0	10	15	2	2	1·46	17	2·14
76·4	57·9	7·4	26·2	35·0	33·2	30·3	·168	82	1	2	4	0	0	10	7	1	3	0·46	8	0·98
90·7	76·3	22·8	33·9	42·1	39·6	36·5	·217	81	1	4	1	0	1	9	13	2	0	2·19	17	1·81
...	...	...	...	36·3	34·8	32·6	·186	87	2	1	0	1	11	6	1	1	8	2·22	21	5·99
...	...	...	...	34·4	32·6	29·6	·164	82	4	1	0	1	8	3	1	1	9	1·34	13	1·20
...	...	...	...	40·8	38·9	36·5	·216	85	3	1	1	0	7	12	0	1	6	2·65	26	3·23
64·5	48·2	0·3	29·0	37·6	35·6	32·8	·188	83	1	0	2	2	4	1	11	3	7	0·38	27	11·02
101·7	68·1	0·0	23·7	34·4	32·2	28·5	·156	78	0	1	10	4	3	0	2	0	8	0·71	15	1·76
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
66·1	51·3	5·0	30·8	37·9	36·2	33·9	·195	86	2	2	2	2	6	8	3	1	5	0·43	25	9·46
86·0	52·6	5·0	26·2	35·4	33·2	29·1	·164	78	2	3	5	7	3	3	3	0	2	0·27	15	1·10
102·9	78·6	17·0	32·4	41·7	39·5	36·8	·219	84	4	1	1	5	2	10	5	1	2	0·26	29	7·42
...	...	...	...	38·1	35·4	31·8	·179	77	0	1	0	3	2	18	2	5	0	...	11	1·27
...	...	...	...	34·8	32·4	28·5	·156	77	0	2	0	12	1	9	1	3	0	...	11	1·19
...	...	...	...	41·8	38·6	34·7	·202	77	1	1	0	6	3	14	1	5	0	...	19	2·28

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
BRAEMAR, (Aberdeen.) James Aitken, Banker.	1114	Jan.	28·698	29·934	2·114	48·2	4·0	44·2	38·9	28·5	10·4	33·7
		Feb.	28·616	29·857	1·627	46·8	0·0	46·8	35·1	23·8	11·3	29·5
		Mar.	28·427	29·644	1·213	55·0	18·3	36·7	44·2	32·6	11·6	38·4
LOANHEAD, (Aberdeen.) Alex. Farquharson.	747	Jan.	29·079	29·911	2·177	52·7	11·0	41·7	41·9	29·9	12·0	35·9
		Feb.	29·027	29·857	1·689	51·3	12·2	39·1	37·7	26·5	11·2	32·1
		Mar.	28·808	29·630	1·300	59·0	23·9	35·1	47·3	33·1	14·2	40·2
TILLYPRONIE, (Aberdeen.) Robert Littlejohn, Gardener to Sir John F. Clark, Bart.	1120	Jan.	28·671	29·908	2·131	49·2	17·3	31·9	40·1	29·2	10·9	34·6
		Feb.	28·608	29·850	1·680	47·0	17·1	29·9	36·4	27·1	9·3	31·7
		Mar.	28·405	29·629	1·250	52·7	23·5	29·2	45·5	32·2	13·3	38·8
ABERDEEN, (Aberdeen.) Peter Harper, Superintendent, Duthie Park.	44	Jan.	29·852	29·902	2·239	53·0	11·5	41·5	41·6	31·3	10·3	36·5
		Feb.	29·815	29·866	1·690	46·0	13·0	33·0	38·3	29·3	9·0	33·8
		Mar.	29·591	29·641	1·225	55·0	28·0	27·0	48·7	34·8	13·5	41·5
HADDO HOUSE, (Aberdeen.) John Forrest, Gardener to the Earl of Aberdeen.	180	Jan.	29·683	29·887	2·224	50·0	6·0	44·0	41·3	30·6	10·7	36·0
		Feb.	29·645	29·847	1·635	49·0	10·0	39·0	37·4	28·2	9·2	32·8
		Mar.	29·423	29·624	1·330	60·0	25·0	35·0	48·4	33·2	15·2	40·8
PETERHEAD, (Aberdeen.) Dr Sinclair, H.M. Prison.	100	Jan.	29·772	29·885	2·222	51·0	22·0	29·0	43·1	33·7	9·4	38·4
		Feb.	29·728	29·842	1·706	48·0	19·0	29·0	38·9	31·7	7·2	35·3
		Mar.	29·516	29·627	1·290	61·0	30·0	31·0	46·5	36·1	10·4	41·3
CRATHES, (Kincardine.) J. Smith.	145	Jan.	29·754	29·918	2·200	56·0	4·5	51·5	43·4	29·5	13·9	36·4
		Feb.	29·702	29·866	1·700	48·4	10·2	38·2	38·3	27·6	10·7	32·9
		Mar.	29·482	29·644	1·270	62·0	23·5	38·5	48·1	33·4	14·7	40·7
MONTROSE (Royal Asylum), (Forfar.) Dr John G. Havelock.	200	Jan.	29·726	29·951	2·216	52·0	19·0	33·0	42·0	32·8	9·2	37·4
		Feb.	29·650	29·875	1·604	41·6	18·3	23·3	37·4	29·9	7·5	33·6
		Mar.	29·437	29·659	1·156	53·0	28·0	25·0	46·0	34·8	11·2	40·4
ARBROATH, (Forfar.) James Campbell, "For the Natural History Assoc. of Arbroath."	68	Jan.	29·868	29·944	2·176	53·0	18·0	35·0	43·4	32·7	10·7	38·0
		Feb.	29·802	29·879	1·674	45·0	20·0	25·0	39·8	30·3	9·5	35·0
		Mar.	29·595	29·670	1·284	54·0	27·5	26·5	47·3	34·9	12·4	41·0
DUNDEE, Forfar.) (Eastern Necropolis), John Carnochan, Curator.	164	Jan.	29·770	29·955	2·160	52·3	16·8	35·5	42·3	32·7	9·6	37·5
		Feb.	29·692	29·879	1·690	43·6	16·9	28·4	38·0	29·0	9·0	33·5
		Mar.	29·487	29·669	1·194	57·4	27·0	30·4	47·7	35·2	12·5	41·5
DUNDEE (Harbour), (Forfar.) J. Thomson, Jr., A.M.I.C.E., The Harbour Trust.	20	Jan.	29·929	29·948	2·224	54·0	22·0	32·0	45·2	34·1	11·1	39·6
		Feb.	29·854	29·873	1·682	44·2	21·5	22·7	40·2	29·7	10·5	34·9
		Mar.	29·652	29·670	1·181	58·0	30·0	28·0	49·8	36·3	13·5	43·0
LEDNATHIE, (Forfar.) William Morrison, Gardener to Patrick Stormonth Darling.	720	Jan.	29·140	29·940	2·201	51·0	10·8	40·2	41·4	28·0	13·4	34·7
		Feb.	29·064	29·872	1·638	43·0	10·5	32·5	37·4	25·2	12·2	31·3
		Mar.	28·855	29·651	1·242	59·3	22·0	37·3	46·5	31·3	15·2	38·9
BALRUDDERY, (Forfar.) R. Cairns, Gardener to J. Martin White.	266	Jan.	...	...	...	52·5	17·5	35·0	43·4	32·8	10·6	38·1
		Feb.	29·580	29·378	1·597	46·0	17·0	29·0	40·2	28·0	12·2	34·1
		Mar.	29·273	29·669	1·246	59·0	27·0	32·0	48·9	33·1	15·8	41·0
PERTH, (Perth.) John Leslie, Gardener to Henry Coats.	105	Jan.	29·840	29·958	2·170	52·5	7·5	45·0	43·1	30·9	12·2	37·0
		Feb.	29·769	29·888	1·676	47·5	10·0	37·5	39·0	27·2	11·8	33·1
		Mar.	29·552	29·670	1·214	57·0	24·0	33·0	49·8	34·2	15·6	42·0
STRONVAR, (Perth.) James Dickson, Gardener to James Carnegie.	422	Jan.	29·509	29·982	2·070	52·5	7·5	45·0	42·7	30·4	12·3	36·3
		Feb.	29·394	29·880	1·700	46·0	9·0	37·0	37·4	26·0	11·4	31·7
		Mar.	29·194	29·661	1·170	56·0	22·0	34·0	48·0	35·1	12·9	41·5

THERMOMETERS. Black Bulb, Maximum, in SUN. Highest.	THERMOMETERS. Black Bulb, Maximum, in SUN. Mean.	Black Bulb, Minimum from radiation during Night. Lowest.	Black Bulb, Minimum from radiation during Night. Mean.	HYGROMETER. Dry Bulb.	HYGROMETER. Wet Bulb.	DEDUCTIONS. Glaisher's Tables. 2d Ed. Dew-point.	DEDUCTIONS. Glaisher's Tables. 2d Ed. Elastic Force of Vapour.	DEDUCTIONS. Glaisher's Tables. 2d Ed. Humidity. Sat. = 100.	WINDS. Number of Days it blew in certain Directions. N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Pressure on square foot.	RAIN. Number of days it fell.	RAIN. Amount.
°	°	°	°	°	°	°	inch.											lbs.	days	inch
84·8	58·0	−3·0	24·2	32·9	31·3	28·1	·154	82	6	0	0	0	0	15	4	6	0	1·51	18	2·33
101·0	66·3	−2·6	20·9	30·2	29·1	25·8	·140	83	4	9	0	1	3	9	1	1	0	0·26	10	0·79
115·0	88·0	12·5	29·0	37·6	35·5	32·6	·186	82	2	1	0	1	1	18	3	5	0	0·61	19	1·92
...	...	...	...	36·1	34·1	31·2	·176	82	2	2	1	0	0	1	7	13	5	0·47	14	1·11
...	...	...	...	33·0	31·9	29·7	·165	88	2	2	1	7	0	1	1	8	6	0·26	13	0·59
...	...	...	...	39·7	37·7	35·1	·205	84	1	1	2	5	0	2	8	9	3	0·81	18	1·75
82·2	59·9	15·0	27·0	33·9	33·0	31·4	·177	90	5	2	0	0	0	6	6	12	0	5·10	20	1·07
84·0	56·6	15·0	24·6	30·9	30·1	27·9	·153	88	2	1	0	6	4	5	3	7	0	2·28	14	0·83
106·8	83·7	20·0	30·0	37·0	35·9	34·4	·198	90	5	3	0	3	1	7	4	8	0	2·89	20	1·76
...	...	...	...	36·0	34·3	31·8	·180	85	1	0	0	0	1	8	16	5	0	2·89	16	1·70
...	...	...	...	34·2	32·8	29·6	·164	82	1	1	0	4	5	8	5	4	0	1·39	16	1·08
...	...	...	...	40·5	38·2	35·8	·206	82	3	0	1	1	3	15	5	3	0	1·23	18	1·35
51·0	42·0	1·0	24·8	35·5	34·1	32·0	·181	87	3	1	0	0	2	9	8	8	0	...	21	1·60
52·0	39·7	5·0	23·7	32·4	31·6	29·6	·167	90	1	2	0	9	1	5	2	8	0	...	18	1·25
73·0	58·4	19·0	28·3	39·7	38·2	36·8	·214	88	1	1	0	2	8	8	3	8	0	...	21	1·45
...	...	...	...	38·7	36·1	32·6	·186	80	7	0	0	1	7	3	8	5	0	3·57	13	1·35
...	...	...	...	35·8	33·7	30·7	·172	82	3	1	3	4	9	1	5	2	0	2·10	11	0·60
...	...	...	...	41·5	38·7	35·2	·206	79	4	0	1	1	12	4	7	2	0	1·82	18	1·54
...	...	−1·0	23·0	35·8	33·7	30·7	·172	82	1	0	1	0	3	8	10	6	2	2·07	17	1·73
...	...	7·7	23·8	33·0	32·0	29·8	·166	88	3	2	2	5	7	1	6	1	1	0·95	15	1·27
...	...	17·2	28·2	40·0	37·8	34·9	·203	82	2	0	2	1	5	9	7	4	1	1·61	20	1·09
...	...	...	...	36·6	35·3	33·5	·192	89	3	0	0	1	4	3	10	10	0	5·48	11	0·85
...	...	...	...	32·9	32·1	30·5	·171	91	4	3	2	3	5	3	5	3	0	2·25	8	1·69
...	...	...	...	39·0	37·4	35·3	·207	87	5	0	1	1	5	11	5	3	0	3·31	11	0·76
65·0	48·6	15·0	30·2	37·5	35·9	33·7	·193	86	4	0	1	0	2	4	16	4	0	1·61	10	0·65
55·5	45·1	12·0	28·0	34·5	33·2	31·1	·174	86	6	0	5	3	2	3	6	3	0	0·77	11	1·02
82·0	58·4	24·0	32·4	40·6	39·0	37·0	·219	87	2	1	2	2	2	10	8	4	0	0·62	22	1·06
...	...	...	...	37·4	36·1	34·3	·198	89	0	3	1	1	0	3	15	8	0	4·00	14	1·04
...	...	...	...	33·6	32·9	31·7	·179	92	1	5	1	8	0	4	3	6	0	1·82	10	1·33
...	...	...	...	40·8	39·1	36·9	·219	87	0	4	0	4	0	13	3	7	0	3·13	12	1·00
...	...	...	...	39·4	37·5	35·1	·205	85	1	0	1	1	0	3	20	4	1	1·39	22	1·25
...	...	..	...	35·1	33·0	29·7	·163	79	1	2	8	1	0	4	10	1	1	1·04	14	1·27
.	..	...	...	42·3	39·7	36·5	·217	81	0	1	4	2	1	6	16	0	1	1·27	26	1·47
...	...	...	...	34·8	32·9	29·9	·164	87	3	0	0	1	0	2	11	13	1	4·49	16	2·06
...	...	...	...	30·7	29·3	25·5	·137	80	5	3	5	3	1	1	3	7	0	1·53	12	2·13
...	...	...	...	38·4	36·3	33·5	·191	83	2	2	0	3	0	3	11	10	0	3·42	21	1·66
...	...	...	...	37·2	35·7	33·6	·193	87	5	2	1	0	1	6	8	8	0	3·31	14	1·16
...	...	...	...	33·5	32·1	29·5	·163	85	9	5	4	3	0	5	0	2	0	1·93	10	1·31
...	...	...	...	39·9	38·2	36·0	·212	87	3	2	2	1	2	5	13	3	0	2·10	14	1·30
...	...	...	...	36·3	34·9	32·9	·188	88	4	2	2	1	1	4	16	0	1	0·96	8	1·41
...	...	...	...	32·2	31·5	30·0	·167	91	6	2	9	5	1	1	3	0	1	0·21	3	1·24
...	...	...	...	40·4	38·5	36·1	·213	85	2	2	2	1	1	5	14	2	2	0·41	6	1·02
...	...	...	...	36·1	35·5	34·7	·202	95	6	2	0	0	0	5	11	7	0	4·14	22	7·99
...	...	...	...	30·9	30·1	27·9	·153	88	1	3	4	6	2	7	2	3	0	1·69	16	2·03
...	...	...	...	40·3	38·4	35·9	·212	85	0	1	1	2	0	4	16	7	0	4·66	28	5·83

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING							
						In AIR, and protected.							
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
OCHTERTYRE, (Perth.) George Croucher, Gardener to Sir Patrick Keith Murray, Bart.	333	Jan.	29·582	29·953	2·229	51·0	16·0	35·0	43·9	31·8	12·1	37·8
		Feb.	29·499	29·874	1·700	45·0	16·0	29·0	39·3	29·2	10·1	33·3
		Mar.	...	...	...	...	...	...	...	...	...	...
CUPAR, (Fife.) Dr Turnbull, Fife and Kinross District Asylum.	210	Jan.	29·713	29·950	2·106	51·0	13·0	38·0	42·7	32·0	10·7	37·4
		Feb.	29·625	29·863	1·645	47·0	15·0	32·0	38·5	27·6	10·9	33·1
		Mar.	29·440	29·674	1·186	54·0	26·0	28·0	47·4	35·5	11·9	41·5
DOLLAR, (Clackmannan.) A. Blackwood, Gardener, Dollar Institution.	178	Jan.	29·776	29·976	2·087	52·0	15·0	37·0	43·4	33·0	10·4	38·2
		Feb.	29·667	29·868	1·704	48·0	16·0	32·0	38·4	29·5	8·9	34·0
		Mar.	29·468	29·666	1·168	52·0	27·0	25·0	46·7	35·9	10·8	41·3
BUCHLYVIE, (Stirling.) Rev. John A. Macdonald.	125	Jan.	29·852	29·993	2·087	51·5	10·0	41·5	43·4	31·7	11·7	37·5
		Feb.	29·742	29·884	1·725	47·0	13·5	33·5	39·6	28·1	11·5	33·9
		Mar.	29·540	29·679	1·130	55·0	24·0	31·0	48·7	36·0	12·7	42·4
HELENSBURGH, (Dumbarton.) J. R. Wilson, Waterworks.	18	Jan.	...	...	...	51·0	16·0	35·0	44·1	33·6	10·5	38·8
		Feb.	...	...	...	50·2	20·2	30·0	40·1	30·7	9·4	35·4
		Mar.	...	...	...	54·1	27·0	27·1	47·5	37·4	10·1	42·4
DUMBARTON, (Dumbarton.) William Denny and Brothers.	27	Jan.	29·980	30·010	2·136	51·8	10·9	40·9	44·4	34·2	10·2	39·3
		Feb.	29·830	29·860	1·762	51·2	16·6	34·6	40·2	29·4	10·8	34·8
		Mar.	29·644	29·674	1·115	55·5	26·1	29·4	48·9	37·9	11·0	43·4
LOCHBUIE, (Argyll.) George Carson, Gardener to the Maclaine of Lochbuie.	20	Jan.	29·928	29·950	2·130	51·4	22·3	29·1	45·0	39·0	6·0	42·0
		Feb.	29·797	29·820	1·760	51·4	20·0	31·4	41·2	31·8	9·4	36·5
		Mar.	29·645	29·667	1·244	51·4	26·4	25·0	47·4	37·6	9·8	42·5
AIRDS, (Argyll.) Colonel Macfie, C.B., and Alexander M'Lachlan.	15	Jan.	...	...	...	57·0	22·0	35·0	46·3	35·0	11·3	40·6
		Feb.	29·824	29·839	1·710	52·0	25·0	27·0	42·3	33·9	8·4	38·1
		Mar.	29·645	29·661	1·150	56·5	29·5	27·0	48·4	38·2	10·2	43·3
POLTALLOCH, (Lochgilphead, Argyll.) D. S. Melville, Gardener to Lord Malcolm of Poltalloch.	135	Jan.	29·825	29·976	2·261	52·0	14·0	38·0	44·2	34·0	10·2	39·1
		Feb.	29·687	29·837	1·760	48·0	19·0	29·0	38·8	30·4	8·4	34·6
		Mar.	29·516	29·666	1·120	52·0	32·0	20·0	45·6	38·7	6·9	42·1
ROTHESAY, (Isle of Bute.) James Kay, Barone Cottage.	116	Jan.	29·878	30·007	2·190	53·0	11·5	41·5	43·9	34·2	9·7	38·6
		Feb.	29·717	29·847	1·759	47·3	21·5	25·8	41·2	31·7	9·5	36·4
		Mar.	29·562	29·690	1·146	56·0	26·5	29·5	48·9	36·9	12·0	42·9
GREENOCK, (Renfrew.) Daniel Macalister, C.E., Waterworks.	238	Jan.	29·747	30·007	...	52·4	21·2	31·2	44·0	34·8	9·2	39·4
		Feb.	...	...	...	48·6	19·2	29·4	39·1	30·7	8·4	34·9
		Mar.	...	...	...	52·7	22·0	30·7	47·5	37·4	10·1	42·5
PAISLEY, (Renfrew.) Donald Maclean, The Coats Observatory.	107	Jan.	29·894	30·014	2·259	51·9	12·1	39·8	43·6	34·8	8·8	39·2
		Feb.	29·787	29·858	1·752	50·8	16·0	34·8	40·8	31·2	9·6	36·0
		Mar.	29·568	29·686	1·149	58·2	28·0	30·2	49·9	38·3	11·6	44·1
PINMORE, (Ayr.) Robert Torrance, Gardener to Hugh Hamilton of Pinmore.	190	Jan.	29·834	30·047	2·208	52·5	15·0	37·5	45·5	34·2	11·3	38·9
		Feb.	29·632	29·846	1·840	53·0	8·0	45·0	42·9	28·4	14·5	35·6
		Mar.	29·508	29·718	1·100	56·0	25·0	31·0	49·6	36·7	12·9	43·2
BOWHILL, (Ayr.) Alexander Gillespie, C.E.	978	Jan.	28·958	30·043	2·090	50·0	16·0	34·0	41·1	30·2	10·9	35·6
		Feb.	28·763	29·850	1·751	48·0	16·0	32·0	35·7	25·9	9·8	30·8
		Mar.	28·642	29·715	1·222	48·0	20·0	28·0	43·6	32·5	11·1	38·0
GLASGOW (Belvidere Hosp.), (Lanark. D. Campbell, M.D.	54	Jan.	29·948	30·009	2·182	56·0	12·8	43·2	45·0	34·5	10·5	39·8
		Feb.	29·804	29·865	1·720	52·0	18·3	33·7	41·2	30·9	10·3	36·0
		Mar.	29·627	29·688	1·110	55·8	31·8	24·0	50·9	38·8	12·1	44·8

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity. Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
°	°	°	°	°	°	°	inch.											lbs.	days	inch.
90·7	66·0	6·0	27·5	36·7	34·7	31·9	·181	83	0	2	2	0	1	2	17	5	2	1·44	19	2·45
100·0	66·3	13·0	24·5	32·4	31·1	28·4	·156	84	0	1	12	1	0	0	7	4	3	0·33	14	1·75
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	37·5	34·9	31·4	·176	88	11	0	2	0	1	1	15	0	1	1·64	8	1·06
...	...	...	...	33·5	31·0	26·3	·142	74	8	0	7	3	0	1	6	1	2	2·28	7	0·77
...	...	...	...	41·9	39·1	35·6	·210	80	5	0	5	1	1	0	14	4	1	1·88	12	0·85
...	...	...	...	37·2	36·2	34·8	·202	91	0	2	2	0	0	11	2	1	18	2·79	19	2·79
...	...	...	...	33·3	32·4	30·7	·172	90	0	4	6	0	0	0	1	0	17	0·11	10	1·68
...	...	...	...	40·7	39·7	38·5	·233	87	0	1	4	0	0	3	3	2	18	0·12	17	1·87
...	...	...	...	37·0	35·2	32·7	·186	85	1	1	0	1	1	4	14	6	3	1·69	24	4·78
...	...	...	...	33·3	32·0	29·5	·164	86	2	1	8	2	2	4	3	2	4	0·77	17	1·81
...	...	...	...	42·2	40·0	37·3	·223	84	2	1	3	1	1	9	10	3	1	1·54	30	3·48
...	...	...	...	38·5	37·2	35·5	·207	89	6	0	6	0	3	0	16	0	0	...	21	2·78
...	...	...	...	35·2	33·8	31·6	·179	87	3	0	6	0	12	0	7	0	0	...	13	1·72
...	...	...	...	42·2	40·6	38·7	·235	88	9	0	3	0	6	1	12	0	0	...	25	3·24
...	...	...	...	38·6	37·1	35·1	·205	88	0	0	0	3	3	0	9	5	11	1·12	20	3·86
...	...	...	...	34·4	32·8	30·1	·167	84	4	5	4	6	1	1	1	3	3	0·72	14	1·81
...	...	...	...	43·8	41·4	38·6	·234	81	1	2	0	3	4	6	7	4	4	0·67	27	3·12
..	...	...	...	41·3	39·2	36·5	·217	84	2	3	2	0	2	18	1	3	0	3·28	25	8·14
...	...	...	...	36·3	35·1	33·4	·192	90	5	5	5	11	0	0	0	2	0	2·52	11	2·50
...	...	...	...	42·7	41·3	39·7	·244	88	5	2	2	1	5	11	2	3	0	3·61	28	8·05
...	...	...	...	40·3	38·6	37·4	·225	87	3	0	5	3	4	3	13	0	0	4·71	19	4·09
...	...	...	...	37·6	35·2	32·0	·181	81	3	0	9	5	8	1	1	1	0	4·93	3	1·10
...	...	...	...	43·2	41·8	38·0	·228	82	3	0	5	2	4	6	10	1	0	4·08	16	5·23
50·0	44·1	7·0	30 5	38·8	37·7	36·3	·215	91	3	0	1	1	1	3	5	4	13	1·17	18	4·52
61·0	47·4	11·0	25·8	34·7	33·6	31·9	·180	90	1	2	1	4	4	1	0	0	15	0·68	12	2·11
79·0	59·9	16·0	32·0	42·0	41·1	40·0	·247	93	3	2	0	1	1	1	10	2	11	0·75	21	4·31
...	...	...	...	38·2	36·9	35·1	·204	89	1	3	0	1	1	4	14	4	3	1·25	22	4·19
...	...	...	...	34·6	32·8	29·9	·165	82	1	3	6	3	3	2	2	2	6	0·73	15	2·01
...	..	...	...	41·7	39·7	37·2	·223	86	3	0	2	2	3	4	10	4	3	0·82	29	2·98
...	...	...	...	40·0	37·8	34·9	·203	82	0	0	0	2	0	11	12	6	0	4·80	22	6·26
...	...	...	...	36·1	34·4	31·9	·181	85	0	3	5	8	1	5	2	3	1	1·93	14	1·85
...	...	...	...	42·6	40·0	36·8	·219	81	0	0	1	3	1	13	7	5	1	4·88	27	5·30
57·1	45·3	6·7	30·7	38·8	37·0	34·6	·201	85	1	1	0	1	6	8	8	3	3	1·69	24	3·97
54·8	43·8	10·3	25·8	35·5	33·8	31·2	·176	85	1	9	4	2	2	2	5	0	3	0·85	16	1·53
70·1	57·5	20·2	34·9	43·6	41·1	38·1	·230	81	2	1	1	3	9	8	6	1	0	1·69	29	2·63
...	..	...	...	39·3	37·8	35·8	·211	88	0	0	1	0	4	4	5	2	15	0·27	17	6·06
...	..	...	...	33·8	32·2	29·6	·162	83	3	1	2	5	3	0	0	4	10	0·41	11	1·97
...	..	...	...	41·9	40·6	39·0	·239	91	1	3	2	1	9	5	6	0	4	0·81	29	4·90
...	...	...	...	35·6	34·7	33·8	·193	92	1	1	4	1	4	7	11	2	0	1·25	16	6·17
...	...	...	...	31·7	30·7	28·4	·156	87	2	2	8	6	7	1	1	1	0	1·08	9	1·30
...	...	...	...	38·7	37·6	36·0	·214	91	2	1	0	5	7	4	9	3	0	1·06	24	3·04
...	...	...	...	39·3	37·0	34·0	·196	82	0	0	8	1	1	4	12	5	0	1·64	21	2·15
...	...	...	...	35·0	33·2	30·3	·168	82	2	5	15	0	1	0	3	2	0	0·41	10	0·55
...	...	...	...	44·2	41·8	39·0	·238	82	3	4	13	1	1	1	5	3	0	0·34	24	1·38

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902. Months.	BAROMETER. Mean at Station corrected, and at 32°.	BAROMETER. Mean reduced to 32°, and Sea-level	BAROMETER. Monthly Range.	SELF-REGISTERING In AIR, and protected. Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
GLASGOW (Observatory), (Lanark.)	184	Jan.	29·796	30·003	2·190	51·1	14·8	36·3	42·6	35·1	7·5	38·8
Professor Becker, F.R.S.E.		Feb.	29·651	29·859	1·744	49·8	18·3	31·5	39·1	31·6	7·5	35·4
		Mar.	29·484	29·688	1·150	52·1	29·4	22·7	47·1	38·2	8·9	42·6
BOTHWELL, (Lanark.)	...	Jan.	...	...	...	52·0	13·0	39·0	42·8	33·7	9·1	38·2
John T. Wilson, M.D.		Feb.	...	...	...	50·0	9·4	40·6	39·8	27·1	12·7	33·5
		Mar.	...	...	...	55·0	27·0	28·0	48·9	36·8	12·1	42·8
LEADHILLS. (Lanark.)	1300	Jan.	...	...	...	48·5	13·0	35·5	40·3	28·7	11·6	34·5
James M'Farlane.		Feb.	...	...	...	45·1	13·5	31·6	36·7	25·0	11·7	30·8
		Mar.	...	...	...	52·0	22·1	29·9	42·7	33·0	9·7	37·8
EDINBURGH, Royal Observatory,	441	Jan.	29·490	29·987	2·118	53·4	20·9	32·5	43·1	33·6	9·5	38·4
(Edinburgh.)		Feb.	29·374	29·867	1·664	49·2	21·0	28·2	39·2	29·3	9·9	34·3
Professor Copeland, F.R.S.E.		Mar.	29·208	29·691	1·143	55·9	28·8	27·1	48·1	36·9	11·2	42·5
CORSTORPHINE, (Edinburgh.)	165	Jan.	29·802	29·988	2·212	53·4	13·4	40·0	42·8	33·3	9·5	38·0
T. N. Johnston, M.B.		Feb.	29·689	29·875	1·670	51·1	15·4	35·7	40·4	28·9	11·5	34·6
		Mar.	29·510	29·693	1·154	56·8	22·6	34·2	49·2	36·3	12·9	42·7
LEITH, (Edinburgh.)	76	Jan.	29·900	29·985	2·132	53·7	24·0	29·7	43·9	36·8	7·1	40·3
James Bolam, Navigation School,		Feb.	29·780	29·866	1·712	50·4	21·1	29·3	39·5	32·4	7·1	35·9
and George Redpath.		Mar.	29·597	29·682	1·173	56·7	30·1	26·6	49·3	38·7	10·6	44·0
DALKEITH, (Edinburgh.)	190	Jan.	29·770	29·983	2·091	53·0	17·0	36·0	42·7	34·3	8·4	38·5
J. Whytock, Gardener to the Duke		Feb.	29·647	29·861	1·662	50·0	18·0	32·0	40·2	29·3	10·9	34·8
of Buccleuch.		Mar.	...	...	...	57·0	27·0	30·0	49·7	37·0	12·7	43·3
SMEATON, (Haddington.)	100	Jan.	29·868	29·980	2·174	53·5	14·5	39·0	44·0	32·4	11·6	38·2
John Black, Gardener to Sir Archi-		Feb.	29·763	29·876	1·740	52·0	17·5	34·5	40·6	28·7	11·9	34·6
bald Buchan Hepburn, Bart.		Mar.	29·565	29·676	1·200	58·5	24·5	34·0	51·0	35·1	15·9	43·0
MARCHMONT, (Berwick.)	500	Jan.	29·443	30·003	2·130	51·0	19·0	32·0	43·5	31·8	11·7	37·6
John A. Wood, Gardener.		Feb.	29·307	29·865	1·675	47·0	15·0	32·0	38·6	27·0	11·6	32·8
		Mar.	29·153	29·703	1·180	57·0	27·0	30·0	47·9	33·7	14·2	40·8
DUNS CASTLE, (Berwick.)	500	Jan.	29·436	29·995	2·106	53·0	18·6	34·4	43·8	32·1	11·7	37·9
Robert Aikman, Gardener to R.		Feb.	29·306	29·866	1·618	50·2	15·4	34·8	39·2	28·3	10·9	33·7
Mordaunt Hay.		Mar.	29·149	29·700	1·154	56·2	26·4	29·8	49·4	34·9	14·5	42·1
NORTH ESK (Peebles.)	1150	Jan.	...	...	...	...	...	...	...	...	...	...
RESERVOIR,		Feb.	...	...	...	...	...	...	...	...	...	...
William Tod.		Mar.	...	...	...	...	...	...	...	...	...	...
STOBO CASTLE, (Peebles.)	600	Jan.	29·344	30·014	2·062	51·0	8·0	43·0	43·3	32·0	11·3	37·9
William Young, Gardener to Sir		Feb.	29·192	29·866	1·596	51·0	– 1·0	52·0	39·6	24·6	15·0	32·1
G. G. Montgomery, Bart.		Mar.	29·042	29·703	1·182	53·0	22·0	31·0	44·7	35·5	9·2	40·1
BROOMLANDS, (Roxburgh.)	205	Jan.	29·771	30·002	2·068	51·0	13·0	38·0	42·9	32·6	10·3	37·8
James Brunton.		Feb.	29·628	29·859	1·651	50·0	9·0	41·0	39·3	26·2	13·1	32·7
		Mar.	29·475	29·703	1·149	59·0	27·0	32·0	49·3	35·7	13·6	42·5
WOLFELEE, (Roxburgh.)	587	Jan.	29·345	30·025	2·067	50·0	9·0	41·0	42·3	29·1	13·2	35·7
William Gordon,		Feb.	29·198	29·852	1·616	51·5	6·5	45·0	38·2	24·8	13·4	31·5
Gardener to J. T. S. Elliot.		Mar.	29·062	29·707	1·122	56·5	23·0	33·5	48·9	34·5	14·4	41·7
DRUMLANRIG, (Dumfries.)	191	Jan.	29·818	30·033	2·025	52·5	9·5	43·0	44·1	32·0	12·1	38·1
David Inglis,		Feb.	29·636	29·853	1·630	48·0	7·0	41·0	39·9	25·8	14·1	32·8
Gardener to the Duke of Buccleuch.		Mar.	29·494	29·706	1·093	55·0	22·0	33·0	48·7	34·4	14·8	41·6

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
°	°	°	°	°	°	°	inch.											lbs.	days	inch.
66·0	48·4	8·0	29·2	38·4	36·7	34·4	·199	87	0	1	1	1	1	12	7	3	5	0·42	17	2·99
83·4	53·9	11·1	26·3	34·8	33·2	30·7	·170	84	1	5	9	2	2	3	3	1	2	0·30	12	1·48
97·0	78·3	20·8	32·6	42·3	40·1	37·4	·224	84	1	1	2	1	1	13	8	2	2	0·42	27	2·27
...	...	...	...	37·5	36·0	33·9	·195	87	...	...	...	...	...	...	...	...	...	...	15	3·07
...	...	...	...	32·2	31·1	28·7	·158	86	...	...	...	...	...	...	...	...	...	...	7	0·94
...	...	...	...	42·5	40·3	37·6	·226	83	...	...	...	...	...	...	...	...	...	...	19	2·31
...	...	...	...	34·6	33·7	32·4	·183	92	...	...	...	...	...	...	...	...	...	...	23	7·79
...	...	...	...	29·0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14	2·58
...	...	...	...	36·3	35·3	33·9	·196	92	...	...	...	...	...	...	...	...	...	...	28	4·77
89·5	66·5	12·5	32·8	38·2	36·7	34·6	·201	88	2	0	1	1	2	9	9	6	1	3·61	16	0·89
102·0	71·6	15·7	28·0	34·2	32·9	30·7	·172	86	1	1	6	4	6	2	6	1	1	1·82	12	0·82
114·2	96·6	20·4	34·4	41·3	39·0	36·1	·213	82	1	0	1	1	6	11	7	3	1	2·82	17	0·82
82·4	59·5	4·2	25·4	37·8	36·0	33·6	·198	85	6	0	0	0	0	2	18	0	5	1·46	16	1·33
91·8	67·4	6·2	19·9	33·5	32·1	29·6	·163	85	6	2	7	0	3	1	2	1	6	0·73	16	0·99
107·2	90·1	15·1	27·1	41·8	39·2	35·9	·213	81	2	0	3	0	1	1	19	2	3	1·23	22	1·07
...	...	...	...	40·0	37·8	34·2	·203	82	1	0	1	2	1	2	22	2	0	2·89	16	1·07
...	...	...	...	35·5	33·5	30·4	·170	82	1	2	4	6	1	2	8	2	2	1·66	12	1·08
...	...	...	...	43·4	40·7	37·5	·224	79	0	1	2	2	2	6	16	1	1	2·76	18	0·92
...	...	...	...	38·9	35·8	31·7	·179	76	1	0	0	1	3	13	7	6	0	...	10	...
...	...	...	...	34·7	33·6	31·9	·180	90	1	2	2	5	4	10	1	3	0	...	8	...
...	...	...	...	42·5	40·0	36·9	·220	81	0	2	0	3	2	16	2	6	0	...	16	...
68·0	50·2	11·0	29·4	37·3	36·8	34·9	·203	92	3	0	2	0	4	11	10	1	0	...	11	1·36
77·0	54·6	13·0	28·8	33·7	32·4	30·1	·167	86	4	1	5	6	0	5	5	2	0	...	8	0·71
82·0	67·1	19·0	31·9	42·0	39·3	36·0	·212	80	1	1	2	1	2	12	8	4	0	...	14	0·98
54·0	43·6	14·0	29·4	38·0	36·2	33·8	·194	85	4	0	0	1	9	6	8	3	0	2·75	12	1·26
47·0	39·7	10·0	25·2	32·8	31·7	29·5	·164	87	7	1	4	2	5	2	5	2	0	1·96	14	1·36
70·0	51·8	24·0	31·4	41·3	39·2	36·5	·217	84	1	1	3	3	3	5	13	2	0	2·40	13	1·16
...	...	...	...	37·8	35·9	33·4	·191	84	6	0	0	0	3	6	14	2	0	5·52	10	1·53
...	...	...	...	34·3	32·6	39·7	·165	83	11	1	3	0	7	2	4	0	0	3·64	8	1·56
...	...	...	...	41·9	39·5	36·5	·218	83	5	0	0	0	6	9	11	0	0	6·65	10	0·99
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2·70
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1·35
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3·10
...	...	...	...	36·8	34·9	32·3	·183	84	0	4	0	1	0	6	12	8	0	...	18	2·50
...	...	...	...	30·5	29·0	24·7	·134	77	0	3	2	6	0	7	1	9	0	...	11	0·40
...	...	...	...	40·5	38·2	35·3	·206	82	6	2	1	3	3	8	7	1	0	...	17	1·50
...	...	...	...	37·2	35·2	32·4	·184	83	2	0	0	1	4	10	11	2	1	0·56	16	1·34
...	...	...	...	31·7	30·8	28·7	·157	88	1	3	4	5	1	5	3	2	4	0·23	17	1·15
...	...	...	...	41·5	39·6	37·2	·223	86	1	3	1	1	5	9	6	3	2	0·54	21	0·83
...	...	...	...	35·3	34·5	33·3	·191	93	0	2	0	1	0	0	27	1	0	2·19	10	2·22
...	...	...	...	30·2	29·7	28·3	·155	92	2	8	0	2	2	4	7	3	0	0·71	11	1·81
...	...	...	...	40·2	38·7	36·9	·219	89	0	3	0	0	0	3	23	2	0	1·53	14	2·27
...	...	...	...	37·0	35·9	34·4	·198	90	7	1	0	1	0	8	5	9	0	...	11	3·27
...	...	...	...	31·8	30·2	26·4	·144	79	10	5	0	10	1	1	0	1	0	...	9	2·24
...	...	...	...	41·8	40·2	38·2	·231	88	1	0	0	2	1	15	3	9	0	...	13	3·12

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902. Months.	BAROMETER. Mean at Station corrected, and at 32°.	BAROMETER. Mean reduced to 32°, and Sea-level.	BAROMETER. Monthly Range.	SELF-REGISTERING In AIR, and protected. Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
DUMFRIES, (Dumfries.) Rev. WILLIAM ANDSON.	60	Jan. Feb. Mar.	29·968 29·788 29·651	30·036 29·856 29·717	2·060 1·757 1·195	51·5 51·5 60·5	20·5 6·0 27·0	31·0 45·5 33·5	43·5 40 6 50·1	34·9 27·7 37·6	8·6 12·9 12·5	39·2 34·2 43·8
CARGEN (Kirkcudbright.) ALEX. PEACOCK, Gardener.	85	Jan. Feb. Mar.	29·946 29·753 29·625	30·012 29·850 29·720	2·030 1·682 1·174	52·0 50·0 56·0	19·0 6·0 25·0	33·0 44·0 31·0	43·9 40·5 49·1	33·9 26·4 36·9	10·0 14·1 12·2	38·9 33·4 43·0
CALLY (Kirkcudbright.) WM. THOMSON, Gardener to H. G. Murray Stewart of Broughton	120	Jan. Feb. Mar.	29·918 29·713 29·581	30·042 29·848 29·713	1·962 1·659 1·050	51·8 50·4 57·2	18·6 10·0 23·6	33·2 40·4 33·6	43·8 40·6 51·2	34·4 27·0 36·5	9·4 13·6 14·7	39·1 33·8 43·8
BEN NEVIS OBSERVATORY. (Inverness.) R. T. OMOND, F.R.S.E. and ANGUS RANKIN.	4407	Jan. Feb. Mar.	25·316 25·199 25·080	29·949 29·827 29·639	2·008 1·650 1·145	36·5 37·1 35·5	6·6 8·1 12·8	29·9 29·0 22·7	27·1 25·5 28·8	20·4 18·8 22·7	6·7 6·7 6·1	23·8 22·2 25·8

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
°	°	°	°	°	°	°	inch.											lbs.	days	in.
...	...	...	...	39·7	37·9	35·4	·209	85	2	2	1	1	1	11	9	4	0	1·44	19	2·16
...	...	..	...	33·9	32·5	30·1	·167	85	1	5	6	6	1	2	3	3	1	1·00	12	2·25
..	...	...	...	42·8	40·8	38·4	·233	85	1	1	2	4	4	12	4	3	0	1·56	23	2·09
...	...	..	...	38·5	37·3	35·7	·209	90	6	6	2	0	3	4	8	2	0	1·16	9	2·84
..	...	...	...	31·6	31·0	29·6	·164	92	2	5	13	5	1	0	1	1	0	0·40	8	2·94
...	...	...	...	43·0	41·2	39·0	·238	86	2	3	1	0	1	5	15	4	0	0·44	17	2·46
...	...	...	...	37·9	36·9	35·6	·209	92	4	5	0	3	1	7	3	8	0	1·39	15	4·05
...	...	...	...	33·4	32·2	30·0	·166	87	6	5	1	9	1	4	0	2	0	1·36	12	5·26
...	.	...	..	42·7	41·0	39·0	·237	86	3	2	0	4	2	11	2	7	0	2·10	22	5·57
...	...	...	...	24·0	23·6	21·2	·114	88	9	2	1	3	2	4	2	6	2	0·98	26	24·75
...	...	...	...	22·1	21·2	15·3	·087	74	5	4	2	7	5	2	1	0	2	1·85	13	3·36
...	...	...	...	25·8	25·5	23·9	·131	91	8	3	1	2	3	2	6	5	1	0·98	28	18·73

Continuation of page 85.]

FEBRUARY 1902—

Hence the weather of FEBRUARY 1902 was characterized by a mean barometric pressure about the average, with a rather high monthly range; a mean temperature greatly below the average, with a mean daily range slightly above the average; a rather low mean humidity; a mean rainfall only about half the average, falling on 3 less than the average number of days; a 5 days' excess of winds from N. to S.E., blowing with a force greatly below the average.

The mean barometric pressure was 29·854 inches, or 0·004 inch above the average. There was a fairly steep gradient from East to West, and a very moderate one from South to North: hence the prevailing winds were from N. to S.E., moderate in force and very dry and cold. After the first 6 days of the month, during which the barometric pressure fell away steadily from the very high record pressure of Jan. 31st, the variations were very slight.

The mean temperature was 34°·1, or 4°·2 less than the average, the days being 4°·0 and the nights 4°·4 under the average. In only two years since 1865 has a lower mean temperature for February been recorded,—1895 with a mean of 29°·0 and 1900 with a mean of 32°·2. The cold period covered the first three weeks of the month, the days of greatest cold being from 12th to 14th and, in parts of Scotland, the 1st and 2nd. This continuance of frost following on a comparatively mild January is very noteworthy. The absolutely lowest temperature was – 2°·0 at Lairg on the 14th, and we may note on the same day – 1°·0 at Stobo and 0°·0 at Braemar. The absolutely highest temperature was 54°·6 at Fort William on the 25th. The cold was, on the whole, most severe in the Border districts.

The mean rainfall was 1·54 inch, or 50 per cent. below the average. The deficiency was everywhere considerable and greatest at some stations on the West Coast. On the Borders the deficiency was about 40 per cent., in the S.W. from 50 to 70, at Greenock 71, Glasgow 51, Leith 38, Aberdeen and Fort William 85, Wick 33, and Lerwick 40.

Snow fell frequently between the 6th and 20th, and in the Southern uplands lay to a considerable depth. By the 12th most of even the larger lochs were strongly frozen over, in most cases for the first time since 1895. The month was notably free from gales.

MARCH 1902—

Hence the weather of MARCH 1902 was characterized by a mean barometric pressure considerably below the average, with a rather low monthly range; a mean temperature decidedly above the average, with the average daily range; a mean humidity slightly below the average; a mean rainfall almost exactly equal to the average, but falling on 5 days more than the average number; a marked deficiency of easterly winds and a 5 days' excess of winds from S.W. and W., with a mean force about the average.

The mean barometric pressure was 29·657 inches, or 0·165 inch below the average. The mean pressure diminished more rapidly than the average from South to North. The greatest fluctuation of pressure occurred on the evening of the 19th, when a very heavy fall of the mercury was followed by a gale from W.S.W. all over Scotland. The month, with this exception, was remarkably free from high winds and it is noteworthy that the gale which passed rapidly Eastwards over the centre of England on the 24th was quite unfelt in Scotland.

The mean temperature was 41°·7, or 2°·3 above the average, the excess being equally divided between the days and the nights. Every part of Scotland had a mean temperature above the average, the excess being greatest in the South-East and about Glasgow, and least in Shetland and Caithness. The high mean temperature was due to the very warm character of the first 19 days of the month, during which frost was seldom registered at any of the stations. After the gale of the 19th and 20th, a cold spell set in and snow fell frequently in the North between the 20th and 24th. The minimum temperature was almost everywhere recorded on the 24th or 25th. The absolutely highest temperature was 62°·0 at Crathes on the 18th, and the lowest 18°·3 at Braemar on the 24th.

The mean rainfall was 2·82 inches, being just about the average amount. The distribution of the rainfall shows very sharply defined areas of excess and of deficiency. In the East, South-East, South and extreme South-West, the deficiency was everywhere considerable, and there were also two small deficiency areas near Inverness and in the neighbourhood of Wick. Elsewhere the amounts registered were in excess of the average. On the Borders the deficiency was fully 50 per cent, in Midlothian about 40, in Perthshire and Forfarshire about 50. The heaviest excesses reported were 86 per cent. at Fort Augustus and 60 per cent. at Glencarron.

On the whole the character of the weather of the month was almost a complete inversion of the normal type as regards temperature, the first three weeks being very mild and the last ten days very cold.

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 30th JUNE 1902.

By Dr Buchan, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 65 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country:—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56°·33 N.; MEAN LONGITUDE = 3°·45 W.; AND MEAN ELEVATION = 279 Feet.

1902.	BAROMETER		SELF-REGISTERING THERMOMETERS.							BLACK BULB IN SUN.		ON GRASS DURING NIGHT	
	At Sea-level and 32°.	Monthly Range.	Highest.	Lowest.	Monthly Range.	Mean of Day.	Mean of Night.	Mean Daily Range.	Mean Temp.	Highest.	Mean.	Lowest.	Mean.
	inch.	inch.	°	°	°	°	°	°	°	°	°	°	°
Apr.	29·914	1·088	65·0	21·0	44·0	51·6	36·3	15·3	44·0	127·5	82·5	16·4	31·1
May	29·942	1·203	78·0	23·2	54·8	52·3	37·9	14·4	45·1	131·0	85·7	18·1	33·7
Jun.	29·942	0·783	86·5	30·0	56·5	60·7	45·6	15·1	53·2	140·0	91·7	26·2	42·0

1902.	HYGROMETER.		DEDUCTIONS.			WINDS.										RAIN.		Cloud 0-10.	Sunshine.
	Dry Bulb.	Wet Bulb.	Dew-point.	Elas. force Vap.	Hum. Sat.=100.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force	Days.	Amt. in Inch.		
	°	°	°	inch											lbs				hours
Apr.	43·5	40·7	37·3	·223	78	2	2	4	4	4	4	5	4	1	1·77	14	2·07	5·8	160
May	45·0	42·0	38·5	·233	78	7	4	3	1	1	3	6	5	1	2·45	19	2·78	6·8	154
Jun.	52·7	50·0	47·3	·326	82	4	5	7	4	3	2	2	2	1	1·54	15	1·99	7·0	140

1902.	UNDERGROUND TEMPERATURE.						Well or Spring.	SEA.				Ozone.	Lightning seen or Thunder heard.		Auroras seen.	
								Firths.		Open Coast.						
	3 inches.	12 inches.	18 inches.	22 inches.	36 inches.	48 inches.		Temp	Dens.	Temp	Dens.		No. of Stations.	Mean No. of Days.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°	°	°	°	°	°						
Apr.	43·4	43·6	...	43·0	...	...	48·2	...	...	46·0	...	2·1	10	1	0	0
May	47·7	48·2	...	47·9	...	...	47·3	...	...	47·0	...	2·9	5	1	0	0
Jun.	54·3	53·7	...	53·0	...	...	52·1	...	...	51·0	...	2·6	16	2	0	0

And when these results are compared with the averages of 1856–1900, during the same months, they show the following characteristics and differences:—

APRIL 1902—

Mean Barometric Pressure, 29·914 inches; greater than the average of 1856–1900 by 0·026 inch.
Monthly Range, 1·088 inch; less by 0·115 inch.
Mean Temperature, 44°·0; less by 0°·2.
Mean Daily Range, 15°·3; greater by 0°·8.
Mean of Black Bulb in Sun, 82°·5; greater by 6°·5.
Do. at Night, 31°·1; less by 1°·6.
Mean Humidity, 78; less by 3·9.
Rain, Number of Days, 14; greater by 1.
Rain, Depth in Inches, 2·07; less by 0·15 inch.
Wind, Pressure on Square Foot, 1·77 lb.; less by 0·04 lb.
Wind, Direction of, E. to W. as 7 to 9, and N. to S. as 5 to 8; instead of E. to W. as 8 to 8, and N. to S. as 6 to 7.
Hours of Sunshine, 160; greater by 5 hours.
Mean Amount of Cloud, 5·8; less by 0·4.

MAY 1902—

Mean Barometric Pressure, 29·942 inches ; greater than the average of 1856–1900 by 0·002 inch.
Monthly Range, 1·203 inch ; greater by 0·115 inch.
Mean Temperature, 45°·1 ; less by 3°·9.
Mean Daily Range, 14°·4 ; less by 1°·1.
Mean of Black Bulb in Sun, 85°·7 ; greater by 1°·5.
Do. at Night, 33°·7 ; less by 2°·5.
Mean Humidity, 78 ; less by 1·8.
Rain, Number of Days, 19 ; greater by 6 days.
Rain, Depth in Inches, 2·78 ; greater by 0·49 inch.
Wind, Pressure on Square Foot, 2·45 lbs. ; greater by 0·88 lb.
Wind, Direction of, E. to W. as 6 to 10, and N. to S. as 12 to 3 ; instead of E. to W. as 8 to 9, and N. to S. as 6 to 7.
Hours of Sunshine, 154 ; less by 32 hours.
Mean Amount of Cloud, 6·8 ; greater by 0·6.

JUNE 1902—

Mean Barometric Pressure, 29·942 inches ; being exactly the average of 1856–1900.
Monthly Range, 0·783 inch ; less by 0·167 inch.
Mean Temperature, 53°·2 ; less by 1°·7.
Mean Daily Range, 15°·1 ; less by 0°·7.
Mean of Black Bulb in Sun, 91°·7 ; less by 0°·4.
Do. at Night, 42°·0 ; being the average.
Mean Humidity, 82 ; greater by 1·7.
Rain, Number of Days, 15 ; greater by 2 days.
Rain, Depth in Inches, 1·99 ; less by 0·59 inch.
Wind, Pressure on Square Foot, 1·54 lbs. ; greater by 0·12 lb.
Wind, Direction of, E. to W. as 12 to 4, and N. to S. as 8 to 6 ; instead of E. to W. as 7 to 10, and N. to S. as 5 to 7.
Hours of Sunshine, 140 ; less by 49 hours.
Mean Amount of Cloud, 7·0 ; greater by 0·8.

APRIL 1902—

Hence the weather of APRIL 1902 was characterized by a mean barometric pressure a little above the average, with a rather low monthly range ; a mean temperature nearly equal to the average, with a slightly high mean daily range ; a very low humidity ; a mean rainfall a little under the average, falling on one day more than the average number ; a 3 days' deficiency of winds from the North-East, with a corresponding excess from South and West ; a mean wind-force about the average.

The mean barometric pressure was 29·914 inches or 0·026 inch above the average. In Shetland the mean excess was 0·045 inch ; but on the mainland the excess was nowhere so great, and was distributed in a somewhat irregular manner. Pressure was, in general, lowest on the 1st and highest on the 28th. There were no notable fluctuations and the monthly range was rather low.

The mean temperature was 44°·0, or 0°·2 below the average, the days being 0°·2 above and the nights 0°·6 below their respective averages. In the Orkneys and Lewis and in the North-West of the mainland the temperature was fully a degree above the average, and there was a slight excess at Leith and in Bute and Renfrewshire. Elsewhere there was a deficiency which varied in amount but seldom exceeded a degree. The first 10 days of the month were exceedingly cold ; the sheltered minimum thermometer frequently fell below the freezing point at many places, and ground frosts were generally reported throughout the country. The highest temperatures were recorded during the fourth week of the month. The absolutely lowest temperature was 21°·0, at Kingussie on the 7th and Cally on the 8th ; and the absolutely highest 65°·0, at Broomlands on the 22nd, and at Dumfries and Pinmore on the 25th.

The mean rainfall was 2·07 inches, or 7 per cent. below the average. It exceeded the average in Shetland and the Hebrides, and on the mainland in the counties of Aberdeen and Kincardine, at Stronvar, and at some places in the south of Scotland. At Braemar the excess was as much as 50 per cent. Elsewhere there was a deficiency of varying amount, but greatest—fully 50 per cent—along the Moray Firth and in the neighbourhood of Glasgow. Very little rain fell from the 6th to the 10th, and from the 24th to the 28th.

Snow and sleet fell at many places on the 3rd and 10th. Thunderstorms occurred in several districts on the 23rd, and at a few places on other days. A gale from the N.W. blew in the North of Scotland on the 1st, and on the 22nd one from the S.E., also chiefly in the North.

MAY 1902—

Hence the month of MAY 1902 was characterized by a mean barometric pressure practically equal to the average ; an exceedingly low mean temperature, with a rather low mean daily range ; a slightly low humidity ; a mean rainfall somewhat above the average, and falling on an unusually large number of days; an 8 days' excess of winds from N., N.W. and W., with a high mean force.

The mean barometric pressure was 29·942 inches, or 0·002 inch above the average. Pressure was below the average in the North-East and East, and above it in the West and South. An usually steep gradient was formed from West to East.

The mean temperature was 45°·1, or 3°·9 below the average. No mean temperature for May so low has been recorded during the last 46 years, though it is only fractionally lower than the values for 1869, 1885 and 1894, in each of which years the mean May temperature was 45°·2. The days were 4°·4 and the nights 3°·3 below their respective means. Temperature was everywhere considerably below the average, by 5 degrees at Fort Augustus and Glencarron, and by more than 4 degrees at Fort William and Kingussie, in the Nith Valley and in the Border district. In general the deficiency was between 3 and 4 degrees, but at Leith it was only 1°·9. During the fourth week of the month some very high temperatures were registered in the east, especially in Aberdeenshire, that county being for a day or two decidedly the warmest district in the Islands. The absolutely highest temperature for the month was 78°·0 at Aberdeen on the 23rd, and the absolutely lowest 23°2 at Braemar on the 10th.

The mean rainfall was 2·78 inches, or 21 per cent. above the average. The distribution was a little irregular and there were some well-marked areas of deficiency. Thus in Dumfriesshire, North-Ayrshire, Lanarkshire, Stirling and Fifeshire rainfall was below the average by varying amounts, the defect at Glasgow being 42 per cent. There was also a slight deficiency in Caithness-shire and the Western Islands, the amount at Stornoway being 26 per cent. below the average. Elsewhere there was an excess, that in Aberdeenshire being very heavy, – 137 per cent. at Logie Coldstone and 89 per cent at Aberdeen. At Fort Augustus the excess was 67 per cent., at Kingussie 78, and at Braemar 57; but it seldom at other places amounted to 50 per cent. Some very heavy falls occurred on the East coast on the 31st, when an Easterly gale blew.

Early in the month snow fell in Aberdeenshire, Perthshire, and the Border districts, and again, in the north, on the 13th and 14th. The weather of the month was, except for three or four days in the fourth week, of an exceptionally unseasonable sort.

JUNE 1902—

Hence the weather of JUNE 1902 was characterized by a mean barometric pressure exactly equal to the average, with a low monthly range; a mean temperature considerably under the average, with a slightly low mean daily range; a slightly high mean humidity; a rather low mean rainfall, falling on two days more than the average number; a 9 days' excess of winds from N., N.E., E. and S.E.; a mean wind force slightly above the average.

The mean barometric pressure was 29·942 inches, being exactly the average. South-West of a line from Fort William to the mouth of the Tweed pressure was below the average, and North-East of it above,—forming a remarkably well-marked gradient for the cold prevailing winds from N. and E. Fluctuations of pressure during the month were very slight.

The mean temperature was 53°·2, or 1°·7 less than the average. This is the lowest mean temperature for June since 1892, when the mean was 52°·8. The days were 2°·1, and the nights 1°·4, below their respective means. Temperature was everywhere below the average, but the deficiency in the West and South was slight, scarcely amounting to 1°. On the East coast, however, owing to the excess of cold winds from N.E. and E., the deficiencies were large, in the Lothians more than 3°, and at all coast stations fully 2° or 3°. The first three weeks of the month formed an unbroken continuation of the abnormally cold month of May, and during the second and third weeks many places had mean temperatures as much as 5° or 6° below the average. The last few days of the month brought a large amount of sunshine, temperature was everywhere above the average, and fully one half of the stations reported temperatures of 80° and upwards on one or more days. The absolutely highest temperature for the month was 86°·5 at Pinmore on the 28th, and the absolutely lowest 30°·0 at Kingussie on the 18th.

The mean rainfall was 1·99 inch, or 23 per cent. below the average. Along the shores of the Moray Firth and for a little distance inland there was an area of heavy excess, at Gordon Castle 76 per cent., at Nairn 47, and at Inverness 98. In the Lothians also there was an excess varying from 20 to 40 per cent. In Shetland, too, there was a well-marked excess, but in all other districts, with one or two slight exceptions, there was a deficiency. The deficiency increased steadily from East to West and the rainfall records for the month are very exceptional since the amounts at places in the East of the country often exceeded those at places in the West, which have as a rule much heavier rainfalls. Thus the Edinburgh rainfall of 2·33 inches, was half an inch above that of Greenock, and that of Montrose, 2·25 inches, higher than that of Fort William and Glencarron. The deficiency in the West ranged from 40 to 60 per cent. The greater part of the rain fell during the first two weeks of the month.

A little thunder of moderate intensity was reported during the month. On the East coast a large amount of fog prevailed, but very little on the West. We may note also, as still another consequence of the great excess of Easterly winds, that there was much more sunshine on the West coast than on the East; thus Fort William recorded 55 hours more than Edinburgh.

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	Apr.	29·650	29·905	1·312	...	...	...	...	...	...	...
		May	29·595	29·850	1·470	...	...	...	...	...	...	...
		June	29·725	29·975	0·774	...	...	...	...	...	...	...
LERWICK, (Shetland.) G. Allison, Harbour Master.	30	Apr.	29·867	29·899	1·390	52·0	34·0	18·0	46·8	38·9	7·9	42·8
		May	29·833	29·865	1·356	52·0	30·0	22·0	49·4	39·2	10·2	44·3
		June	29·935	29·968	0·870	65·0	41·0	24·0	55·0	45·4	9·6	50·2
DEERNESS, (Orkney.) M. Spence, Schoolhouse.	172	Apr.	29·697	29·887	1·364	54·8	31·2	23·6	47·4	38·5	8·9	43·0
		May	29·708	29·887	1·410	61·3	32·0	29·3	48·6	37·6	11·0	43·1
		June	29·780	29·958	0·341	70·0	39·5	30·5	53·2	44·2	9·0	48·7
KIRKWALL, (Orkney.) J. W. Cursiter, Merchant.	30	Apr.	29·856	29·888	1·308	60·0	32·0	28·0	49·6	38·4	11·2	44·0
		May	29·852	29·885	1·216	60·0	32·0	28·0	48·8	39·4	9·4	44·1
		June	...	...	...	...	...	...	...	...	...	...
DUNROBIN, (Sutherland.) D. Melville, Gardener, Dunrobin Castle.	16	Apr.	29·874	29·891	1·202	58·2	28·2	30·0	50·2	37·8	12·9	43·8
		May	29·916	29·933	1·154	64·0	28·5	35·5	50·8	38·7	12·1	44·8
		June	...	...	...	...	...	...	...	...	...	...
GLENCARRON, (Ross.) D. D. Munro.	504	Apr.	29·332	29·883	1·134	59·8	27·0	32·8	50·6	35·8	14·8	43·2
		May	29·397	29·955	1·272	55·0	28·6	26·4	48·9	36·4	12·5	42·6
		June	29·398	29·946	0·784	80·6	36·0	44·6	61·3	44·6	16·7	52·9
STORNOWAY, (Ross Isle of Lewis.) Principal Keeper of the Lighthouse.	56	Apr.	29·796	29·858	1·300	62·3	28·4	33·9	52·4	37·5	14·9	45·0
		May	29·835	29·947	1·530	60·3	31·4	28·9	51·7	39·2	12·5	45·5
		June	29·893	29·955	0·740	73·3	39·4	33·9	58·8	45·7	13·1	52·3
MONACH, (Hebrides.) James Black, Principal Keeper of the Lighthouse.	150	Apr.	29·696	29·862	1·375	...	...	...	...	...	...	...
		May	29·811	29·977	1·415	...	...	...	...	...	...	..
		June	29·768	29·931	0·770	...	...	...	...	..	...	...
KINGUSSIE, (Inverness.) Walter de Watteville, M.D. and J. Campbell.	828	Apr.	28·998	29·905	1·107	61·0	21·0	40·0	50·5	32·8	18·2	41·4
		May	29·027	29·937	1·126	62·2	23·5	38·7	49·9	34·8	15·1	42·4
		June	29·046	29·938	0·780	83·7	30·0	53·7	62·9	42·1	20·8	52·5
INVERNESS, (Inverness.) Thos. Wallace, High School.	114	Apr.	29·763	29·889	1·202	60·7	30·7	30·0	52·7	37·9	14·8	45·3
		May	29·814	29·940	1·220	66·8	31·6	35·2	51·6	40·1	11·5	45·8
		June	29·834	29·959	0·812	85·0	40·0	45·0	58·7	45·7	13·0	52·2
FORT AUGUSTUS, (Inverness.) Rev. Cyril von Dieckhoff, St Benedict's Priory.	78	Apr.	29·802	29·883	1·152	60·1	25·3	34·8	52·4	35·6	16·8	44·0
		May	29·871	29·952	1·218	63·8	26·5	37·3	51·5	38·4	13·1	44·9
		June	29·859	29·939	0·774	84·0	39·6	44·4	60·2	45·5	14·7	52·8
FORT WILLIAM, (Inverness.) R. T. Omond, F.R.S.E., and Angus Rankin.	42	Apr.	29·856	29·902	1·152	62·2	26·0	36·2	52·9	36·2	16·7	44·5
		May	29·920	29·966	1·201	60·1	28·5	31·6	52·5	38·4	14·1	45·4
		June	29·883	29·928	0·719	80·3	38·0	42·3	63·4	47·0	16·4	55·2
GORDON CASTLE, (Banff.) C. Webster, Gardener to the Duke of Richmond and Gordon.	107	Apr.	29·781	29·899	1·170	61·3	29·0	32·3	51·9	36·6	15·3	44·3
		May	29·813	29·931	1·256	70·6	31·0	39·6	51·5	38·4	13·1	45·0
		June	29·837	29·954	0·760	81·0	37·5	43·5	60·9	45·2	15·7	53·0

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.							Number of Days it blew in certain Directions.											
Highest.	Mean.	Lowest.	Mean.	Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Pressure on square foot.	Number of days it fell.	Amount.
				°	°	°	inch.											lbs.	days	inch
...	...	...	...	40·6	...	...	...	...	2	2	2	5	8	3	3	5	0	5·66	11	...
...	...	...	...	43·2	...	...	...	...	9	8	2	1	1	3	4	8	0	6·71	18	...
...	...	...	...	47·6	...	...	...	...	3	9	6	4	8	1	2	2	0	4·00	6	...
...	...	...	...	42·6	40·7	38·4	·233	86	4	0	2	4	11	1	3	5	0	3·65	15	2·35
...	...	...	...	43·7	40·0	35·6	·208	73	1	18	2	0	2	3	3	1	1	4·20	19	2·32
...	...	...	...	49·1	46·5	43·7	·286	82	5	6	7	2	8	0	1	1	0	3·50	10	2·74
...	...	...	...	43·0	40·9	38·4	·232	83	2	3	3	7	5	2	4	4	0	2·76	13	1·51
...	...	...	...	43·4	40·8	37·8	·226	80	11	3	2	1	2	2	5	5	0	3·39	16	1·90
...	...	...	...	48·1	46·6	45·0	·298	89	7	7	4	8	2	0	1	1	0	2·81	7	1·51
...	...	...	...	44·0	41·8	39·2	·240	83	1	1	3	8	3	1	10	3	0	1·74	12	1·60
...	...	...	...	43·8	41·0	37·7	·226	78	11	1	3	1	2	2	4	5	2	3·92	14	2·06
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	43·8	41·0	37·7	·226	78	2	2	2	8	3	2	2	9	0	...	11	1·81
...	...	...	...	44·7	41·6	38·0	·229	77	5	6	4	2	1	1	2	10	0	...	19	2·91
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	42·9	39·4	35·2	·205	75	9	0	6	0	1	0	14	0	0	3·38	15	3·30
...	...	...	...	42·5	39·8	36·5	·216	80	9	1	9	0	0	0	12	0	0	3·72	26	6·13
...	...	...	...	52·5	48·7	44·8	·298	75	13	0	11	0	0	0	6	0	0	3·06	16	2·01
...	...	...	...	45·0	43·0	40·7	·253	83	2	0	5	3	4	6	4	2	4	2·72	17	2·59
...	...	...	...	45·4	42·6	39·4	·242	80	3	9	4	3	1	2	6	3	0	4·84	20	3·00
...	...	...	...	51·5	49·2	46·8	·321	84	2	5	7	6	1	1	1	1	6	1·99	18	2·11
...	...	...	...	45·9	...	...	...	...	5	1	3	4	9	2	5	1	0	4·33	11	1·79
...	...	...	...	45·7	...	...	...	...	12	2	2	2	2	4	4	1	2	5·16	14	1·99
...	...	...	...	52·1	...	...	...	...	7	6	7	1	7	1	0	0	1	3·69	5	0·90
...	...	...	...	41·4	38·4	34·7	·201	78	3	2	0	2	1	15	1	6	0	...	11	1·41
...	...	...	...	42·9	40·0	36·5	·216	79	12	3	0	0	0	8	1	7	0	...	27	3·05
...	...	...	...	53·0	48·8	44·6	·295	73	1	10	0	0	1	17	0	1	0	...	12	1·41
101·8	90·9	26·0	33·8	45·5	41·2	36·2	·214	70	1	5	2	0	3	7	10	2	0	1·36	11	0·84
114·8	89·4	27·4	36·5	45·3	42·8	38·9	·237	78	4	10	6	0	0	3	5	3	0	2·85	26	2·53
121·2	89·3	31·2	42·4	52·5	50·5	48·5	·341	87	2	10	12	1	1	0	4	0	0	1·64	20	3·67
...	...	...	...	43·5	40·8	37·6	·225	79	5	3	1	0	10	2	1	0	8	1·58	17	1·70
...	...	...	...	45·0	42·2	39·2	·237	79	8	9	0	1	5	3	1	1	3	3·88	25	3·10
...	...	...	...	52·6	49·8	47·1	·323	81	5	16	0	0	3	2	0	1	3	3·81	14	1·33
120·1	103·0	18·5	30·6	44·1	40·6	36·5	·211	74	4	2	1	1	5	8	0	0	9	0·10	20	3·16
127·4	103·9	20·4	32·4	45·0	41·6	37·7	·225	76	8	3	5	0	2	6	3	3	1	0·32	23	4·46
135·2	113·8	26·4	37·9	54·4	50·7	47·1	·324	76	6	6	1	2	1	5	0	0	9	0·19	15	1·59
...	...	...	...	44·3	40·5	36·1	·213	72	0	2	0	8	6	7	2	5	0	...	18	0·92
...	...	...	...	45·2	41·7	37·7	·226	75	1	5	2	3	0	7	0	13	0	...	25	2·69
...	...	...	...	53·3	49·7	46·1	·312	75	2	8	2	12	0	0	0	6	0	...	18	3·62

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
BRAEMAR, (Aberdeen.)	1114	Apr.	28·688	29·906	1·074	55·2	21·2	34·0	47·5	32·2	15·3	39·9
James Aitken, Banker.		May	28·712	29·927	1·168	68·3	23·2	45·1	48·4	35·9	12·5	42·1
		June	28·740	29·937	0·816	77·7	32·4	45·3	60·3	41·9	18·4	51·1
LOANHEAD, (Aberdeen.)	747	Apr.	29·094	29·911	1·144	63·8	23·1	40·7	51·3	33·3	18·0	42·3
Alex. Farquharson.		May	29·101	29·923	1·162	72·3	29·2	43·1	50·8	36·6	14·2	43·7
		June	29·143	26·952	0·859	84·5	34·8	49·7	61·7	43·2	18·5	52·4
TILLYPRONIE, (Aberdeen.)	1120	Apr.	28·686	29·913	1·079	58·1	26·3	31·8	47·6	32·7	14·9	40·2
Robert Littlejohn, Gardener to		May	28·702	29·929	1·100	65·0	28·1	36·9	48·9	34·6	14·3	41·7
Sir John F. Clark, Bart.		June	28·745	29·949	0·772	78·7	33·8	44·9	58·6	42·2	16·4	50·4
ABERDEEN, (Aberdeen.)	44	Apr.	29·870	29·920	1·121	63·0	28·0	35·0	51·6	36·2	15·4	43·9
Peter Harper, Superintendent,		May	29·875	29·924	1·155	78·0	33·5	44·5	53·2	39·4	13·8	46·3
Duthie Park.		June	29·903	29·953	0·795	74·0	39·0	35·0	58·7	45·9	12·8	52·3
HADDO HOUSE, (Aberdeen.)	180	Apr.	29·708	29·908	1·116	60·0	25·0	35·0	50·6	35·1	15·5	42·8
John Forrest, Gardener to the		May	29·730	29·929	1·132	74·0	29·0	45·0	51·6	38·3	13·3	45·0
Earl of Aberdeen.		June	29·751	29·954	0·750	72·0	34·0	38·0	58·2	43·8	14·4	51·0
PETERHEAD, (Aberdeen.)	100	Apr.	29·793	29·903	1·164	54·0	31·0	23·0	48·3	38·2	10·1	43·3
Dr Sinclair, H.M. Prison.		May	29·815	29·925	1·166	67·8	33·0	34·8	50·8	40·5	10·3	45·6
		June	29·849	29·958	0·804	64·0	38·0	26·0	56·4	45·8	10·6	51·1
CRATHES, (Kincardine.)	145	Apr.	29·756	29·917	1·108	61·0	26·0	35·0	50·8	34·0	16·8	42·4
J. Smith.		May	29·763	29·923	1·218	77·0	31·0	46·0	52·7	37·4	15·3	45·1
		June	29·796	29·955	0·837	78·0	36·0	42·0	59·8	43·3	16·5	51·5
MONTROSE (Royal Asylum), (Forfar.)	200	Apr.	29·708	29·929	1·064	58·6	27·0	31·6	48·9	36·2	12·7	42·6
Dr John G. Havelock.		May	29·700	29·922	1·202	73·6	32·3	41·3	51·1	37·4	13·7	44·3
		June	29·733	29·952	0·762	70·6	38·3	32·3	56·1	45·9	10·2	51·1
ARBROATH, (Forfar.)	68	Apr.	29·851	29·925	1·058	60·0	29·0	31·0	49·8	37·0	12·8	43·4
James Campbell, "For the Natural		May	29·855	29·930	1·290	76·0	32·0	44·0	52·7	38·9	13·8	45·8
History Assoc. of Arbroath."		June	29·887	29·961	0·790	68·5	38·0	30·5	56·4	45·6	10·8	51·0
DUNDEE, (Forfar.)	164	Apr.	29·748	29·929	1·040	62·2	27·0	35·2	52·4	36·3	16·1	44·4
(Eastern Necropolis),		May	29·757	29·939	1·270	73·5	32·2	41·3	53·4	38·8	14·6	46·1
John Carnochan, Curator.		June	29·772	29·951	0·791	74·5	38·2	36·3	59·4	45·6	13·8	52·5
DUNDEE (Harbour), (Forfar.)	20	Apr.	29·904	29·922	1·076	64·0	31·8	32·2	54·6	38·3	16·3	46·4
J. Thomson, Jr., A.M.I.C.E., The		May	29·922	29·940	1·260	74·0	33·8	40·2	56·6	37·0	19·6	46·8
Harbour Trust.		June	29·933	29·952	0·788	75·0	40·5	34·5	60·9	46·2	14·7	53·5
LEDNATHIE, (Forfar.)	720	Apr.	29·123	29·917	0·986	59·5	21·5	38·0	50·5	32·4	18·1	41·5
William Morrison, Gardener		May	29·135	29·926	1·118	73·0	28·0	45·0	50·5	35·7	14·8	43·1
to Patrick Stormonth Darling.		June	29·161	29·943	0·786	77·8	32·0	45·8	60·3	41·6	18·7	50·9
BALRUDDERY, (Forfar.)	266	Apr.	29·633	29·927	1·062	60·0	26·0	34·0	52·7	35·3	17·4	44·0
R. Cairns, Gardener to J. Martin		May	29·647	29·940	1·128	73·0	30·0	43·0	54·7	37·3	17·4	46·0
White.		June	29·664	29·952	0·812	75·0	36·0	39·0	59·6	44·8	14·8	52·2
PERTH, (Perth.)	105	Apr.	29·804	29·921	1·188	61·5	24·5	37·0	53·7	34·5	19·2	44·1
John Leslie, Gardener to Henry		May	29·829	29·946	1·124	72·5	28·5	44·0	54·6	37·9	16·7	46·2
Coats.		June	29·824	29·939	0·786	79·5	34·5	45·0	62·2	45·5	16·7	53·8
STRONVAR, (Perth.)	422	Apr.	29·446	29·911	0·990	61·5	22·5	39·0	51·6	34·7	16·9	43·1
James Dickson, Gardener to		May	29·495	29·961	1·130	66·0	25·5	40·5	58·3	37·3	16·0	45·3
James Carnegie.		June	29·474	29·933	0·780	79·5	31·5	48·0	62·0	45·2	16·8	53·6

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.							Number of Days it blew in certain Directions.											
Highest.	Mean.	Lowest.	Mean.	Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Pressure on square foot.	Number of days it fell.	Amount.
							inch.											lbs.	days	inch
115·0	89·6	16·4	28·1	39·9	37·6	34·6	·201	82	1	7	1	2	2	9	1	7	0	0·39	15	3·37
131·0	94·4	18·1	32·8	41·7	38·8	35·5	·208	79	6	8	3	2	1	6	2	3	0	0·75	25	3·48
140·0	112·6	26·2	38·0	51·8	47·9	44·0	·289	75	3	7	4	4	5	6	0	1	0	0·13	18	1·69
...	...	...	...	42·2	39·7	36·6	·218	82	1	2	2	6	1	2	1	7	8	0·24	17	2·15
...	...	...	...	43·9	40·9	37·4	·222	77	2	2	1	2	0	4	2	14	4	0·55	25	4·89
...	...	...	...	53·0	50·4	47·8	·332	82	2	5	1	4	0	1	1	7	9	0·17	19	3·53
127·5	91·6	23·0	30·8	39·6	37·0	33·6	·193	79	2	1	0	6	2	9	5	5	0	1·82	16	2·03
121·5	93·9	25·5	32·4	40·1	38·4	36·2	·214	86	9	5	1	3	0	2	2	9	0	0·52	25	4·52
135·5	99·9	32·6	41·0	49·3	47·2	44·9	·299	85	6	12	0	8	2	1	1	0	0	1·04	20	4·01
...	...	...	...	43·5	41·0	38·0	·229	80	2	1	3	3	8	5	4	4	0	1·74	14	2·69
...	...	. .	...	45·6	43·4	40·7	·257	85	5	5	0	2	2	3	4	10	0	2·62	28	3·89
...	...	...	...	51·3	49·1	46·8	·322	85	4	7	2	4	4	4	0	5	0	1·44	16	1·59
81·0	61·9	19·0	29·3	42·3	40·2	37·7	·226	84	2	2	1	6	3	6	2	8	0	...	16	3·20
92·0	64·6	23·0	32·3	44·7	42·1	39·0	·238	81	12	1	0	6	2	3	2	5	0	...	24	3·85
...	...	29·0	37·9	50·3	48·2	46·0	·311	85	3	5	1	12	4	0	0	5	0	...	16	1·21
...	...	...	...	43·7	40·8	37·4	·223	78	3	1	3	5	9	1	7	1	0	1·99	8	1·94
...	...	...	...	45·5	41·8	37·5	·225	74	14	2	3	0	4	1	4	3	0	4·56	15	1·53
...	...	...	...	49·7	47·7	45·6	·307	87	10	2	4	5	7	0	0	2	0	2·95	9	1·43
...	...	...	...	42·2	40·2	37·3	·223	84	3	1	4	4	7	2	6	3	0	1·76	12	3·32
...	...	...	...	44·6	41·6	38·0	·230	78	7	3	2	4	1	4	5	4	1	4·28	24	4·33
...	...	...	...	51·9	49·5	47·1	·324	85	7	3	6	6	6	0	0	2	0	2·92	16	2·00
...	...	...	...	42·2	39·6	36·4	·216	81	4	2	5	2	7	1	6	3	0	3·34	12	2·38
...	...	...	...	44·2	41·3	37·9	·228	78	12	3	4	1	2	2	5	2	0	4·54	13	2·20
...	...	...	...	49·9	47·9	45·8	·309	87	9	1	9	5	3	1	2	0	0	1·88	10	2·25
79·0	62·0	25·0	33·5	43·6	41·4	38·8	·236	83	2	3	7	3	5	2	6	2	0	1·12	14	1·39
88·0	64·9	28·0	35·5	46·0	42·4	38·3	·233	76	7	2	5	2	1	1	7	6	0	1·44	19	2·35
90·5	66·3	35·0	43·8	50·7	48·8	46·8	·322	88	4	5	12	2	2	0	3	2	0	1·04	14	1·89
...	...	...	...	43·8	41·4	39·2	·239	85	0	4	1	9	0	10	3	3	0	1·74	8	1·71
...	...	...	...	45·9	42·9	39·5	·244	79	4	10	1	5	0	4	4	3	0	4·00	17	2·10
.	...	...	...	51·6	49·6	47·6	·330	86	0	8	3	13	1	2	2	1	0	1·56	15	1·67
...	...	...	...	44·9	41·4	37·3	·222	75	0	1	9	2	1	10	5	2	0	0·82	22	1·82
...	...	...	...	47·5	43·5	39·1	·238	73	4	7	6	1	1	3	5	4	0	1·66	27	2·19
...	...	...	...	52·0	49·4	46·7	·320	82	1	6	16	1	0	3	2	1	0	0·84	18	1·59
...	...	...	...	41·2	38·6	35·4	·207	80	3	1	2	10	3	4	2	5	0	2·43	15	3·07
...	...	...	...	43·1	39·5	35·2	·205	74	10	5	0	4	0	1	5	6	0	4·75	23	2·40
...	...	...	...	51·3	48·4	45·4	·306	80	6	3	4	8	4	1	3	1	0	2·04	23	2·47
...	...	...	...	43·0	39·9	36·2	·213	77	2	2	4	4	6	6	2	4	0	2·28	11	1·60
...	...	...	...	45·7	41·9	37·5	·226	73	10	4	1	2	0	4	8	2	0	2·04	20	2·41
...	...	...	...	51·9	49·0	46·0	·311	81	2	5	7	2	7	3	2	2	0	2·43	14	1·40
...	...	...	...	42·9	40·5	37·1	·226	83	3	1	7	7	3	1	3	1	4	0·34	10	1·66
...	...	...	...	46·5	43·4	39·8	·246	79	11	2	3	4	3	3	4	1	0	0·92	20	2·23
...	...	...	...	52·7	50·4	48·1	·336	85	2	4	15	1	5	1	1	0	1	1·68	9	1·93
...	...	...	...	42·9	39·8	36·1	·212	78	1	2	4	4	8	2	2	7	0	4·49	17	5·40
...	...	...	...	44·8	41·1	36·8	·218	74	6	10	2	1	0	2	6	4	0	5·52	28	3·43
...	...	...	...	52·5	49·4	46·2	·314	79	4	1	8	6	4	2	5	0	0	1·88	16	2·43

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
OCHTERTYRE, (Perth.) **George Croucher**, Gardener to Sir Patrick Keith Murray, Bart.	333	Apr.	...	...	...	...	...	...	...	...	...	...
		May	...	...	...	...	...	...	...	...	...	...
		June	...	...	...	...	...	...	...	...	...	...
CUPAR, (Fife.) Dr **Turnbull**, Fife and Kinross District Asylum.	210	Apr.	29·696	29·928	0·982	62·0	29·0	33·0	52·3	36·7	15·6	44·5
		May	29·708	29·940	1·210	70·0	30·0	40·0	55·6	37·5	18·1	46·6
		June	29·725	29·953	0·869	78·0	34·0	44·0	60 9	44·8	16·1	52·9
DOLLAR, (Clackmannan.) A. **Blackwood**, Gardener, Dollar Institution.	178	Apr.	29·720	29·917	1·040	59·0	27·0	32·0	50·8	37·3	13·5	44·1
		May	...	...	...	...	...	...	...	...	...	...
		June	...	...	...	...	...	...	...	...	...	...
BUCHLYVIE, (Stirling.) Rev. **John A. Macdonald**.	125	Apr.	29·781	29·919	1·003	62·0	25·0	37·0	53·4	35·6	17·8	44·5
		May	29·818	29·957	1·150	66·0	28·0	38·0	55·4	37·2	18·2	46·3
		June	29·795	29·932	0·780	80·0	32·0	48·0	63·0	46·1	16·9	54·6
HELENSBURGH, (Dumbarton.) J. R. **Wilson**, Waterworks.	18	Apr.	...	...	...	61·0	29·0	32·0	50·9	38·0	12·9	44·9
		May	...	...	...	59·2	33·4	25·8	58·8	39·6	14·2	46·7
		June	...	...	...	79·3	39·0	40·3	61·0	47·4	18·6	54·2
DUMBARTON, (Dumbarton.) **William Denny and Brothers**.	27	Apr.	29·883	29·913	0·930	61·5	27·1	34·4	53·2	37·7	15·5	45·5
		May	29·926	29·950	1·154	60·3	30·6	29·7	54·9	38·7	16·2	46·8
		June	29·896	29·926	0·740	83·2	34·2	49·0	62·8	47·0	15·8	54·9
LOCHBUIE (Argyll.) **George Carson**, Gardener to the Maclaine of Lochbuie.	20	Apr.	29·887	29·909	1·111	59·4	30·0	29·4	50·7	39·3	11·4	45·0
		May	29·946	29·969	1·242	56·4	28·0	28·0	51·7	39·6	12·1	45·7
		June	29·903	29·924	0·730	80·4	38·0	42·4	61·7	48·0	13·7	54·8
AIRDS, (Argyll.) Colonel **Macfie**, C.B., and **Alexander M'Lachlan**.	15	Apr.	29·888	29·904	1·070	63·0	30·0	33·0	52·8	39·1	13·7	46·0
		May	29·951	29·967	1·150	62·0	31·0	31·0	52·7	39·4	13·3	46·1
		June	29·908	29·924	0·710	79·0	41·0	38·0	62·8	48·3	14·0	55·3
POLTALLOCH, (Lochgilphead. Argyll.) D. S. **Melville**, Gardener.	135	Apr.	29·768	29·917	1·120	62·0	32·0	30·0	53·8	37·2	16·6	45·5
		May	29·821	29·970	1·170	59·0	34·0	25·0	53·9	38·5	15·4	46·2
		June	29·777	29·923	0·710	85·0	38·0	47·0	63·4	47·4	16·0	55·4
ROTHESAY, (Isle of Bute.) **James Kay**, Barone Cottage.	116	Apr.	29·790	29·918	1·128	63·0	28·8	34·2	54·0	37·0	17·0	45·5
		May	29·842	29·970	1·190	61·0	31·3	29·7	54·9	38·4	16·5	46·6
		June	29·796	29·922	0·768	81·2	40·7	40·5	63·9	46·8	17·1	55·3
GREENOCK, (Renfrew.) **Daniel Macalister**, C.E., Waterworks.	238	Apr.	29·667	29·917	1·068	57·9	31·2	26·7	51·4	38·1	13·3	44·8
		May	29·710	29·961	1·115	60·2	33·9	26·3	52·9	39·3	13·6	46·1
		June	29·678	29·926	0·770	82·0	41·7	40·3	60·8	47·5	13·3	54·1
PAISLEY, (Renfrew.) **Donald Maclean**, The Coats Observatory.	107	Apr.	29·800	29·918	1·005	62·0	29·0	33·0	54·2	37·9	16·3	46·0
		May	29·841	29·959	1·166	65·5	31·5	34·0	56·0	39·8	16·2	47·9
		June	29·812	29·926	0·764	85·3	39·2	46·0	63·8	47·6	16·2	55·7
PINMORE, (Ayr.) **Robert Torrance**, Gardener to Hugh Hamilton of Pinmore.	190	Apr.	29·720	29·930	1·000	65·0	24·0	41·0	53·8	36·4	17·4	45·1
		May	29·749	29·960	1·132	62·0	25·5	36·5	55·4	37·6	17·8	46·5
		June	29·714	29·920	0·780	86·5	40·0	46·5	64·9	46·6	18·3	55·7
BOWHILL, (Ayr.) **Alexander Gillespie**, C.E.	978	Apr.	28·858	29·928	0·970	60·0	25·0	35·0	46·7	34·4	12·3	40·5
		May	28·893	29·961	1·260	58·0	28·0	30·0	50·2	34·4	15·8	42·3
		June	28·865	29·921	0·769	84·0	35·0	49·0	59·9	43·3	16·6	51·6
GLASGOW (Belvidere Hosp.), (Lanark.) D. **Campbell**, M.D.	54	Apr.	29·860	29·920	1·000	61·0	32·8	28·2	52·8	38·4	14·4	45·6
		May	29·900	29·960	1·180	61·8	32·2	29·6	54·6	40·1	14·5	47·4
		June	29·864	29·924	0·768	86·2	38·2	48·0	63·7	46·2	17·5	55·9

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
°	°	°	°	°			inch.											lbs.	days	inch
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	..
...	...	...	...	44·0	40·9	37·3	·222	76	8	0	7	1	3	2	6	1	2	1·49	11	1·16
...	...	...	...	46·6	43·2	39·3	·241	76	8	5	8	0	0	0	8	2	0	2·02	15	1·38
...	...	...	..	52·4	48·6	44·7	·297	76	3	3	20	0	0	0	3	1	0	1·44	12	1·09
...	...	...	...	44·1	42·4	40·4	·251	86	0	2	5	0	0	2	4	0	17	0·14	11	1·39
...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
...	...	...	..	...	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...
...	...	...	...	43·8	41·2	38·1	·230	80	0	1	8	4	2	6	3	5	1	1·00	23	1·95
...	...	...	...	45·7	43·2	40·3	·251	82	4	4	5	1	0	2	9	5	1	2 07	24	2·48
...	...	...	...	53·7	51·3	49·0	·346	84	1	2	19	2	0	1	3	1	1	1·02	18	2·02
...	...	...	...	44·3	42·1	39·5	·241	82	7	0	9	0	9	0	5	0	0	...	14	1·68
...	...	...	...	46·2	43·7	40·9	·257	83	13	0	3	0	3	0	12	0	0	...	20	2·67
...	...	...	...	53·7	50·8	47·0	·322	78	16	0	6	0	6	0	2	0	0	...	15	1·83
...	...	...	...	45·0	42·3	39·2	·239	80	4	3	2	5	5	0	3	2	6	0·40	13	1·26
...	...	...	...	46·6	42·8	38·6	·233	74	7	3	1	1	0	2	8	6	3	0·48	21	2·68
...	...	...	...	54·5	51·7	48·9	·347	81	5	0	4	8	1	2	0	2	8	0·16	14	1·89
...	...	...	...	44·8	42·8	40·5	·252	85	0	3	9	3	7	4	0	4	0	3·09	15	4·50
...	...	...	...	45·7	42·9	39·7	·243	80	12	4	1	0	2	11	0	1	0	5·24	23	5·21
...	...	...	...	55·2	51·9	48·7	·342	79	5	7	4	3	5	6	0	0	0	2·46	11	1·70
...	...	...	...	45·8	42·7	39·1	·241	79	6	0	8	1	6	1	7	1	0	3·06	18	2·05
...	...	...	...	46·5	43·7	40·5	·253	81	13	2	5	0	0	1	9	1	0	4·08	18	2·62
...	...	...	...	55·2	52·1	49·1	·350	80	4	3	12	2	3	3	3	0	0	2·72	13	1·95
90·0	77·3	15·0	30·8	45·3	42·8	40·0	·247	82	2	0	3	3	6	2	2	1	11	1·66	15	2·42
95·0	77·0	22·0	34·7	46·4	43·4	40·0	·248	80	6	5	4	0	1	3	3	1	8	1·21	18	3·31
112·0	88·2	32·0	48·5	55·8	53·7	51·7	·387	86	1	5	3	2	4	3	1	1	10	1·04	12	1·35
...	...	...	...	44·8	41·1	36·8	·218	74	1	6	3	5	5	2	1	3	4	0·86	15	1·92
...	...	...	...	45·7	42·4	38·6	·235	77	8	3	1	0	1	3	7	6	2	0·88	21	2·74
...	...	...	...	53·9	51·1	48·4	·328	82	2	10	5	0	3	3	2	2	3	0·72	17	1·78
..	...	...	...	44·8	40·3	35·1	·205	69	0	4	5	3	0	7	5	6	0	4·00	14	2·61
..	...	...	...	45·9	42·0	37·5	·226	73	1	3	2	2	0	2	12	9	0	4·28	21	2·72
...	...	...	...	54·1	51·5	49·0	·346	82	0	1	5	15	0	2	4	3	0	2·06	15	1·83
73·0	63·8	23·0	33·1	45·2	41·5	37·3	·223	74	2	5	2	5	3	4	5	2	2	1·28	16	0·87
75·3	66·6	23·2	34·6	47·8	43·8	39·4	·242	73	7	3	1	0	1	5	7	6	1	1·28	21	2·17
95·1	74·0	30·3	44·8	54·4	51·2	48·1	·335	79	4	11	4	1	2	2	2	3	1	0·83	16	1·98
...	...	...	...	44·2	42·3	40·1	·248	85	0	0	3	6	7	1	2	2	9	0·40	16	2·76
...	...	...	...	46·5	44·6	42·4	·272	86	0	0	1	0	1	5	13	6	5	0·81	24	3·59
...	...	...	...	55·2	52·3	49·5	·255	82	0	0	14	1	5	1	1	0	8	0·50	18	1·81
...	...	...	...	40·7	38·2	35·1	·204	81	1	3	4	8	7	0	5	2	0	1·00	14	1·81
...	...	...	...	41·6	39·4	36·7	·218	83	6	3	2	2	2	3	9	4	0	1·00	18	1·82
...	...	...	...	51·6	49·2	46·5	·320	83	3	4	6	6	7	0	3	1	0	1·04	12	0·81
...	...	...	...	45·9	42·9	39·5	·244	79	1	2	16	1	1	2	5	2	0	0·69	11	0·35
...	...	...	...	47·4	43·6	39·4	·241	75	4	0	10	0	1	2	6	7	1	0·55	15	1·09
...	...	...	...	55·4	52·1	48·9	·348	80	5	4	13	1	1	1	2	3	0	0·21	15	1·36

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°		°	°	°
GLASGOW (Observatory), (Lanark.) Professor BECKER, F.R.S.E.	184	Apr.	29·715	29·918	1·004	59·6	31·3	28·3	51·0	38·7	12·3	44·8
		May	29·753	29·957	1·183	59·4	32·8	26·6	52·1	40·2	11·9	46·2
		June	29·726	29·927	0·787	81·8	40·5	41·3	60·7	47·7	13·0	54·2
BOTHWELL, (Lanark.) JOHN T. WILSON, M.D.	...	Apr.	...	...	...	61·4	26·0	35·4	52·4	36·0	16·4	44·2
		May	...	...	...	63·0	27·0	36·0	53·1	38·3	14·8	45·7
		June	...	...	...	82·6	34·4	48·2	61·9	45·9	16·0	53·9
LEADHILLS. (Lanark.) JAMES M'FARLANE.	1300	Apr.	...	...	...	60·0	25·5	34·5	49·0	32·6	16·4	40·8
		May	...	...	...	58·1	24·0	34·1	48·8	33·2	15·6	41·0
		June	...	...	...	80·5	31·5	49·0	59·4	43·6	15·8	51·5
EDINBURGH, Royal Observatory, (Edinburgh.) Professor COPELAND, F.R.S.E.	441	Apr.	29·448	29·931	1·018	58·4	29·9	28·5	50·4	38·1	12·3	44·2
		May	29·473	29·957	1·218	63·1	32·9	30·2	50·9	39·5	11·4	45·2
		June	29·473	29·952	0·768	78·3	37·5	40·8	57·4	45·4	12·0	51·4
CORSTORPHINE, (Edinburgh.) T. N. JOHNSTON, M.B.	165	Apr.	29·746	29·928	1·000	60·8	29·6	31·2	52·5	35·5	17·0	44·0
		May	29·772	29·954	1·218	65·2	31·1	34·1	53·4	39·1	14·3	46·2
		June	29·768	29·949	0·776	80·3	38·2	42·1	59·1	45·6	13·5	52·3
LEITH, (Edinburgh.) JAMES BOLAM, Navigation School, and GEORGE REDPATH.	76	Apr.	29·838	29·922	0·988	61·8	33·9	27·9	52·4	39·6	12·8	45·0
		May	29·864	29·948	1·240	65·8	35·9	29·9	53·7	41·6	12·1	47·6
		June	29·862	29·945	0·824	76·9	40·4	36·5	57·7	47·3	10·4	52·5
DALKEITH, (Edinburgh.) J. WHYTOCK, Gardener to the Duke of Buccleuch.	190	Apr.	29·712	29·921	0·950	61·0	29·0	32·0	52·4	37·5	14·9	45·0
		May	29·748	29·958	1·150	65·0	32·0	33·0	53·8	38·0	15·8	45·9
		June	29·746	29·953	0·750	81·0	41·0	40·0	59·4	47·1	12·3	53·3
SMEATON, (Haddington.) JOHN BLACK, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Apr.	29·812	29·922	1·045	64·0	26·0	38·0	54·6	35·7	18·9	45·2
		May	29·835	29·945	1·130	72·5	28·5	44·0	56·7	38·9	17·8	47·8
		June	29·842	29·951	0·790	80·5	35·5	45·0	62·1	45·5	16·6	53·8
MARCHMONT, (Berwick.) JOHN A. WOOD, Gardener.	500	Apr.	29·387	29·939	1·100	61·0	27·0	34·0	51·0	35·4	15·6	43·2
		May	29·409	29·960	1·220	69·0	28·0	41·0	51·0	36·8	14·2	43·9
		June	29·408	29·951	0·810	77·0	37·0	40·0	59·5	44·9	14·6	52·2
DUNS CASTLE, (Berwick.) ROBERT AIKMAN, Gardener to R. Mordaunt Hay.	500	Apr.	29·384	29·933	1·012	62·0	28·6	33·4	52·9	35·0	17·9	44·0
		May	29·403	29·953	1·220	72·0	30·0	42·0	53·8	37·4	16·4	45·6
		June	29·409	29·951	0·796	76·2	39·0	37·2	61·3	44·4	16·9	52·8
NORTH ESK RESERVOIR, (Peebles.) WILLIAM TOD.	1150	Apr.	...	...	...	...	...	...	...	...	...	...
		May	...	...	...	...	...	...	...	...	...	...
		June	...	...	...	...	...	...	...	...	...	...
STOBO CASTLE, (Peebles.) WILLIAM YOUNG, Gardener to Sir G. G. Montgomery, Bart.	600	Apr.	29·277	29·935	1·040	...	...	...	...	...	...	...
		May	29·298	29·957	1·110	...	...	...	...	...	...	...
		June	29·297	29·945	0·720	...	...	...	...	...	...	...
BROOMLANDS, (Roxburgh.) JAMES BRUNTON.	205	Apr.	29·708	29·935	0·966	65·0	28·0	37·0	54·0	35·8	18·2	44·9
		May	29·723	29·951	1·188	69·0	30·5	38·5	53·2	37·0	16·2	45·1
		June	29·724	29·948	0·794	80·0	36·0	44·0	61·7	46·1	15·6	53·9
WOLFELEE, (Roxburgh.) WILLIAM GORDON, Gardener to J. T. S. Elliot.	537	Apr.	29·306	29·930	1·003	61·0	25·0	36·0	51·8	33·0	18·8	42·4
		May	29·363	29·956	1·216	72·0	26·0	46·0	53·0	35·4	17·6	44·2
		June	29·355	29·939	0·844	82·5	36·5	46·0	62·8	44·9	17·9	53·8
DRUMLANRIG, (Dumfries.) DAVID INGLIS, Gardener to the Duke of Buccleuch.	191	Apr.	29·719	29·930	1·006	64·4	25·0	39·4	53·4	33·8	19·6	43·6
		May	29·748	29 960	1·100	63·4	28·5	34·9	54·8	35·5	19·3	45·2
		June	29·725	29·933	0·770	84·5	36·5	48·0	64·7	46·1	18·6	55·4

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.											RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity. Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
°	°	°	°	°	°	°	inch.											lbs.	days	inch.
109·8	92·1	28·3	31·5	44·3	40·8	36·8	·218	74	0	3	8	5	4	2	7	1	0	0·56	14	0·79
126·0	103·5	22·6	33·1	45·9	42·1	37·7	·228	74	6	2	5	0	0	4	11	2	1	0·49	22	2·13
125·9	108·0	30·8	44·3	53·3	50·1	46·9	·321	79	0	5	14	1	1	1	4	2	2	0·42	14	1·97
...	...	...	...	43·8	40·6	36·8	·218	76	...	...	...	...	...	...	...	...	...	...	6	0·64
...	...	...	...	45·9	42·5	38·6	·236	77	...	...	...	...	...	...	...	...	...	...	17	2·16
...	...	...	...	53·6	50·4	47·3	·325	78	...	...	...	...	...	...	...	...	...	...	14	1·68
...	...	...	...	39·2	36·9	34·0	·195	81	...	...	...	...	...	...	...	...	...	...	18	4·28
...	...	...	...	40·3	37·9	34·9	·202	81	...	...	...	...	...	...	...	...	...	...	19	2·48
...	...	...	...	52·4	49·9	47·4	·329	83	...	...	...	...	...	...	...	...	...	...	18	2·60
123·4	101·3	22·1	33·3	43·0	40·0	36·4	·215	78	1	2	6	3	6	3	5	3	1	1·88	15	1·05
123·8	100·9	25·2	35·6	44·4	41·2	37·5	·224	76	5	2	2	2	2	3	9	5	1	2·53	23	2·11
129·4	102·2	29·3	42·8	50·4	48·2	45·9	·310	85	2	10	8	2	0	3	3	1	1	1·00	16	2·33
122·8	101·5	16·7	25·4	43·5	40·4	36·7	·218	76	2	1	7	1	1	1	12	1	4	0·70	20	1·43
126·8	106·4	18·5	29·8	45·5	42·0	37·9	·229	75	6	0	10	0	0	0	10	0	5	0·96	27	2·94
126·4	108·8	26·7	38·9	51·0	48·5	45·9	·311	83	1	0	16	0	1	0	4	1	7	0·87	21	2·54
...	...	...	...	45·3	42·0	38·2	·231	77	1	3	7	2	3	2	8	3	1	1·96	13	1·30
...	...	...	...	46·9	43·3	39·3	·240	75	5	3	4	2	0	1	11	4	1	2·79	21	2·28
...	...	...	...	51·6	49·5	47·4	·328	85	1	7	11	3	1	1	4	0	2	1·90	16	2·32
...	...	...	...	44·8	41·3	37·0	·222	75	1	4	2	6	1	11	2	3	0	...	9	...
...	...	...	...	45·6	43·0	40·0	·248	81	2	9	1	2	1	8	2	6	0	...	20	2·00
...	...	...	...	52·5	50·0	47·5	·328	83	0	13	2	5	0	6	1	3	0	...	10	1·40
88·0	72·2	23·0	32·2	44·0	42·0	39·6	·244	84	1	2	5	3	5	7	5	2	0	...	6	1·02
98·0	75·3	24·0	34·6	46·6	44·1	41·2	·261	83	9	2	4	0	3	5	5	3	0	...	16	2·33
108·0	77·6	30·0	42·5	52·6	50·7	48·8	·345	87	3	3	14	2	5	1	1	1	0	...	15	2·71
77·0	60·0	25·0	31·6	43·5	40·6	37·1	·221	78	3	3	8	7	4	1	3	1	0	1·84	14	2·02
85·0	64·3	25·0	35·0	44·0	41·3	38·1	·230	79	6	9	4	0	1	3	7	1	0	2·62	22	3·44
92·0	71·0	34·0	43·2	51·6	49·3	46·9	·323	84	3	4	11	2	5	2	1	2	0	1·64	15	2·49
...	...	...	...	45·1	41·6	37·6	·224	75	11	1	0	1	8	4	4	1	0	2·76	11	2·22
...	...	...	...	45·5	42·3	38·6	·235	77	18	0	1	0	4	0	8	0	0	1·77	18	3·30
...	...	...	...	52·1	49·6	47·1	·324	83	12	1	4	1	11	1	0	0	0	1·21	12	2·96
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1·90
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3·10
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2·15
...	...	...	...	42·6	39·6	35·9	·212	78	4	6	2	3	4	2	5	4	0	...	14	1·80
...	...	...	...	43·8	41·6	39·0	·239	83	8	3	3	1	1	6	6	3	0	...	14	1·90
...	...	...	...	54·0	50·8	47·7	·329	79	5	5	2	6	2	2	5	3	0	...	9	0·80
...	...	...	...	44·0	41·4	38·3	·232	80	3	5	3	1	2	6	4	4	2	0·49	12	1·46
...	...	...	...	45·3	42·4	39·1	·239	79	8	4	2	1	0	3	7	6	0	0·64	24	2·66
...	...	...	...	53·0	50·4	47·8	·332	82	5	8	4	0	2	5	3	2	1	0·30	15	1·90
...	...	...	...	41·1	39·0	36·4	·214	83	0	4	2	0	1	2	20	1	0	0·73	14	2·59
...	...	...	...	43·9	41·8	39·4	·242	84	0	10	0	2	1	0	14	4	0	1·29	21	2·68
...	...	...	...	52·2	50·0	47·8	·332	85	1	9	0	3	1	2	12	2	0	0·56	15	2·36
...	...	...	...	43·5	41·7	39·5	·244	86	0	3	0	2	0	10	1	14	0	...	7	2·83
...	...	...	...	45·4	43·0	40·3	·249	83	2	2	0	1	0	5	1	20	0	...	12	2·14
...	...	...	...	55·3	53·3	51·4	·380	87	1	3	0	2	1	16	0	7	0	...	10	1·12

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
DUMFRIES, (Dumfries.) Rev. William Andson.	60	Apr.	29·858	29·924	0·978	65·0	29·0	36·0	54·6	37·3	17·3	46·0
		May	29·889	29·955	1·118	66·5	32·0	34·5	55·1	39·7	15·4	47·4
		June	29·855	29·921	0·783	86·0	38·5	47·5	64·4	48·3	16·1	56·3
CARGEN. (Kirkcudbright.) Alex. Peacock, Gardener.	85	Apr.	29·834	29·929	0·950	64·0	26·0	38·0	54·0	36·1	17·7	45·1
		May	29·860	29·954	1·156	66·0	28·0	38·0	54·4	38·2	16·2	46·3
		June	29·831	29·924	0·792	84·5	37·0	47·5	63·9	48·7	15·2	56·3
CALLY. (Kirkcudbright.) Wm. Thomson, Gardener to H. G. Murray Stewart of Broughton.	120	Apr.	29·801	29·932	1·040	64·8	21·0	43·8	55·3	34·7	20·6	45·0
		May	29·823	29·956	1·100	65·0	26·6	38·4	57·7	35·8	21·9	46·7
		June	29·792	29·923	0·800	84·2	38·8	45·4	65·1	47·8	17·3	56·4
BEN NEVIS OBSERVATORY, (Inverness.) R. T. Omond, F.R.S.E. and Angus Rankin.	4407	Apr.	25·295	29·879	1·162	37·6	16·3	21·3	30·3	23·9	6·4	27·1
		May	25·350	29·938	1·137	46·9	16·1	30·8	31·5	23·6	7·9	27·6
		June	25·426	29·925	0·847	66·4	23·8	42·6	43·5	35·5	8·0	39·5

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity. Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
°	°	°	°	°	°	°	inch.											lbs.	days	inch
...	...	...	...	45·2	41·8	37·9	·228	76	0	4	5	4	5	6	4	1	1	1·63	12	2·18
...	...	...	...	47·7	43·5	38·9	·237	72	3	6	3	1	0	6	6	5	1	1·82	21	2·02
...	...	...	...	56·0	52·1	48·4	·343	76	1	6	10	5	3	2	2	1	0	1·17	12	1·68
...	...	...	...	45·9	43·6	41·0	·258	84	1	2	11	1	1	1	8	5	0	0·61	10	2·40
...	...	...	...	48·0	44·8	41·3	·259	78	2	7	8	2	3	2	4	3	0	0·98	13	2·46
...	...	...	...	56·6	53·7	51·0	·375	81	1	2	12	5	5	2	2	1	0	0·45	12	1·82
...	...	...	...	44·1	41·9	39·3	·241	82	2	7	4	7	2	2	2	4	0	1·08	11	2·55
...	...	...	...	45·7	43·9	41·8	·267	87	6	4	0	1	2	6	1	11	0	1·04	19	4·34
...	...	...	..	55·1	52·9	50·8	·371	85	0	2	0	8	4	6	0	3	7	0·20	14	3·43
...	...	...	...	27·1	26·6	24·3	·131	89	6	2	0	8	5	2	3	2	2	1·35	19	9·87
...	...	...	...	27·6	27·4	26·5	·144	95	11	5	2	1	2	2	3	3	2	0·53	28	15·14
...	...	...	...	39·6	38·0	35·9	·211	87	4	2	5	9	4	2	1	2	1	0·81	14	2·41

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 30th SEPTEMBER 1902.

By Dr Buchan, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 60 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56°·33 N.; MEAN LONGITUDE = 3°·45 W.; AND MEAN ELEVATION = 279 Feet.

1902.	BAROMETER.		SELF-REGISTERING THERMOMETERS.							BLACK BULB IN SUN.		ON GRASS DURING NIGHT	
	At Sea-level and 32°.	Monthly Range.	Highest.	Lowest.	Monthly Range.	Mean of Day.	Mean of Night.	Mean Daily Range.	Mean Temp.	Highest.	Mean.	Lowest.	Mean.
	inch.	inch.	°	°	°	°	°	°	°	°	°	°	°
July	29·941	0·923	77·5	31·0	46·5	61·5	47·3	14·2	54·4	135·0	97·6	27·0	43·4
Aug.	29·872	0·615	77·0	32·0	45·0	61·4	46·5	14·9	53·9	144·0	96·6	27·3	42·5
Sept.	30·004	1·369	76·0	28·0	48·0	59·8	46·3	13·5	53·1	124·5	86·4	23·4	42·2

1902.	HYGROMETER.		DEDUCTIONS.			WINDS.										RAIN.		Cloud 10-0.	Sun-shine.
	Dry Bulb.	Wet Bulb.	Dew-point.	Elas. force Vap.	Hum. Sat.=100.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force	Days.	Amt. in Inch.		
	°	°	°	inch											lbs.				hours
July	53·9	51·0	48·2	·335	81	4	2	2	2	2	5	8	5	1	1·48	18	3·07	7·4	118
Aug.	53·3	50·8	48·3	·338	83	4	2	4	2	3	4	6	4	2	1·20	15	2·79	7·1	127
Sept.	52·8	50·4	48·0	·340	84	2	2	2	3	3	6	6	4	2	1·32	16	2·55	6·9	86

1902.	UNDERGROUND TEMPERATURE.						Well or Spring.	SEA.				Ozone.	Lightning sooner Thunder heard		Aurorae seen.	
								Firths.		Open Coast.						
	3 inches.	12 inches.	18 inches.	22 inches.	36 inches.	48 inches.		Temp.	Dens.	Temp.	Dens.		No. of Stations.	Mean No. of Days.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°	°	°	°	°	°						
July	57·0	57·7	57·2	...	54·0	52·9	52·3	...	...	58·0	...	2·3	13	1	0	0
Aug.	56·0	56·8	56·4	...	54·3	53·6	51·4	...	...	59·0	...	2·2	23	2	0	0
Sept.	53·3	54·3	54·5	...	53·5	53·5	50·8	...	...	...	...	2·7	6	1	1	1

And when these results are compared with the averages of 1856–1900, during the same months, they show the following characteristics and differences :—

JULY 1902—

Mean Barometric Pressure, 29·941 inches; greater than the average of 1856–1900 by 0·055 inch.
Monthly Range, 0·923 inch; greater by 0·015 inch.
Mean Temperature, 54°·4; less by 2°·8.
Mean Daily Range of Temperature, 14°·2; less by 0°·7.
Mean Humidity, 81; less by 0·9.
Mean of Black Bulb in Sun, 97°·6; greater by 4°·2.
Do. at Night, 43°·4; less by 1°·3.
Rain, Number of Days, 18; greater by 3 days.
Rain, Depth in Inches, 3·07; less by 0·08 inch.
Wind, Pressure on Square Foot, 1·48 lb.; being the average.
Wind, Direction of, E. to W. as 4 to 13, and N. to S. as 8 to 6; in place of E. to W. as 5 to 12, and N. to S. as 5 to 5.
Hours of Sunshine, 118; less by 53 hours.
Mean Amount of Cloud, 7·4; greater by 0·8.

AUGUST 1902—

Mean Barometric Pressure, 29·872 inches ; greater than the average of 1856–1900 by 0·014 inch.
Monthly Range, 0·615 inch ; less by 0·364 inch.
Mean Temperature, 53°·9 ; less by 2°·7.
Mean Daily Range of Temperature 14°·9 ; greater by 0°·4.
Mean Humidity, 83 ; less by 0·7.
Mean of Black Bulb in Sun, 96°·6 ; greater by 6°·7.
Do. at Night, 42°·5 ; less by 1°·8.
Rain, Number of Days, 15 ; less by 1 day.
Rain, Depth in Inches, 2·79 ; less by 0·83 inch.
Wind, Pressure on Square Foot, 1·20 lb. ; less by 0·16 lb.
Wind, Direction of, E. to W. as 6 to 10, and N. to S. as 7 to 6 ; in place of E. to W. as 5 to 11, and N. to S. as 5 to 8.
Hours of Sunshine, 127 ; less by 27 hours.
Mean Amount of Cloud, 7·1 ; greater by 0·6.

SEPTEMBER 1902—

Mean Barometric Pressure, 30·004 inches ; greater than the average of 1856–1900 by 0·161 inch.
Monthly Range, 1·369 inch ; greater by 0·201 inch.
Mean Temperature, 53°·1 ; greater by 0°·3.
Mean Daily Range of Temperature, 13°·5 ; less by 0°·5.
Mean Humidity, 84 ; less by 1·5.
Mean of Black Bulb in Sun, 86°·4 ; greater by 0°·8.
Do. at Night, 42°·2 ; greater by 1°·6.
Rain, Number of Days, 16 ; being the average.
Rain, Depth in Inches, 2·55 ; less by 1·05 inch.
Wind, Pressure on Square Foot, 1·32 lb. ; less by 0·35 lb.
Wind, Direction of, E. to W. as 5 to 11, and N. to S. as 5 to 10 ; in place of E. to W. as 4 to 11, and N. to S. as 5 to 8.
Hours of Sunshine, 86 ; less by 37 hours.
Mean Amount of Cloud, 6·9 ; greater by 0·6.

JULY 1902—

Hence the weather of JULY 1902 was characterized by a mean barometric pressure somewhat above the average, with a monthly range slightly above the average ; an exceedingly low mean temperature, with a slightly low mean daily range ; a mean humidity about the average ; a mean rainfall all but equal to the average, but falling on 3 days more than the average number ; a 3 days' excess of winds of average strength from N. and N.W.

The mean barometric pressure was 29·941 inches, or 0·055 inch above the average. The excess of pressure above the normal was greater in the W. and N.W. than in the E. and S.E., thus accounting for the prevailing winds of the month. Pressure was highest on the 2nd or 3rd and everywhere lowest on the 26th, the extremes at Leith being 30·234 inches and 29·243 inches.

The mean temperature was 54°·4, or 2°·8 below the average. This is the lowest mean temperature for July since 1888, when the mean was 53°·8. The days were 3°·2, and the nights 2°·5 below their respective means. Temperature was everywhere much below the average, the deficiency being greatest in the North-East of the country. In Caithness, along the Moray Firth, and in Aberdeenshire, the defect was nearly 4°. The area of least deficiency, barely 2°, was in Ayrshire and Dumfriesshire. The fourth week of the month was exceptionally cold, and on the 26th, when a moderate N.E. gale blew with driving rain, some very low mean temperatures for the time of year were recorded, the mean for that day being nowhere much above 50°. It is noteworthy that on the 26th snow fell on the Grampians, and that in Inverness there were heavy showers of sleet. The absolutely highest temperature was 77°·5 at Perth on the 5th, and the lowest 31°·0 at Stronvar on the 25th.

The mean rainfall was 3·07 inches, or 3 per cent. below the average. Banffshire and Aberdeenshire formed a well-defined area of considerable excess, varying from 30 to 50 per cent., and there was a moderate excess in Wigtownshire and Galloway. At Wick, Dunrobin, and in Islay, Bute, and Arran, rainfall was also above the average by varying amounts. Elsewhere there was a deficiency ranging from 57 per cent. at Bowhill (Ayrshire) to 7 per cent. at Montrose. Along the Caledonian Canal the deficiency was from 30 to 40 per cent., in Perthshire from 20 to 30 per cent., in the Clyde area from 10 to 20 per cent., and in the Border counties from 20 to 50 per cent. Some very heavy falls were reported on the 26th,—1·36 inch at Montrose being just about half the total amount for the month at that place.

A little thunder was reported locally.

AUGUST 1902—

Hence the weather of AUGUST 1902 was characterized by a mean barometric

[*Continued on page* 122.

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse	230	July	29·611	29·861	0·790	...	...	...	...	...	...	...
		Aug.	29·576	29·827	0·518	...	...	...	...	...	...	...
		Sept.	29·679	29·932	1·408	...	...	...	...	...	...	..
LERWICK, (Shetland.) G. ALLISON, Harbour Master.	30	July	29·829	29·860	0·340	58·5	41·0	17·5	55·2	45·8	9·4	50·5
		Aug	29·784	29·806	0·546	61·0	40·0	21·0	55·5	45·8	9·7	50·6
		Sept.	29·899	29·921	1·456	60·0	38·0	22·0	54·3	46·1	8·2	50·2
DEERNESS, (Orkney.) M. SPENCE, Schoolhouse.	172	July	29·698	29·885	0·793	63·0	41·1	21·9	54·4	45·7	8·7	50·1
		Aug.	29·658	29·846	0·554	60·5	42·2	18·3	54·3	46·4	7·9	50·4
		Sept.	29·780	29·967	1·513	60·0	39·5	20·5	54·1	46·4	7·7	50·3
KIRKWALL, (Orkney.) JAMES BEGG, S.S.C.	30	July	29·853	29·884	0·760	64·0	40·0	24·0	55·4	46·2	9·2	50·8
		Aug.	29·806	29·837	0·476	65·0	37·0	28·0	55·9	46·2	9·7	51·0
		Sept.	...	...	...	...	...	...	...	...	...	...
DUNROBIN, (Sutherland.) D. MELVILLE, Gardener, Dunrobin Castle.	16	July	29·891	29·908	0·800	70·0	40·0	30·0	59·4	46·6	12·8	53·0
		Aug.	29·834	29·851	0·546	67·0	42·0	25·0	58·6	49·0	9·6	53·8
		Sept.	29·954	29·971	1·356	62·5	36·0	26·5	58·2	46·9	11·3	52·6
GLENCARRON, (Ross.) D. D. MUNRO.	504	July	29·391	29·941	0·793	64·7	39·7	25·0	56·8	46·6	10·2	51·7
		Aug.	29·319	29·873	0·545	65·7	39·0	26·7	58·4	46·1	12·3	52·2
		Sept.	...	...	...	...	...	...	...	...	...	...
STORNOWAY, (Ross Isle of Lewis.) Principal Keeper of the Lighthouse.	56	July	29·878	29·940	0·730	66·3	38·4	27·9	59·2	46·5	12·7	52·8
		Aug.	29·797	29·858	0·568	66·3	38·4	27·9	60·0	47·0	13·0	53·5
		Sept.	29·892	29·957	1·540	66·3	34·4	31·9	59·2	47·7	11·5	53·5
MONACH, (Hebrides.) JAMES BLACK, Principal Keeper of the Lighthouse.	150	July	29·786	29·949	0·800	...	...	...	...	...	...	...
		Aug.	29·680	29·843	0·580	...	...	...	...	...	...	..
		Sept.	29·802	29·966	1·398	...	...	...	...	...	...	...
KINGUSSIE, (Inverness.) WALTER DE WATTEVILLE, M.D. and J. CAMPBELL.	828	July	29·051	29·941	0·850	71·1	37·8	33·3	60·6	45·4	15·2	53·0
		Aug.	28·966	29·856	0·561	67·0	35·8	31·2	60·9	44·1	16·8	52·5
		Sept.	29·094	29·986	1·254	65·5	35·9	29·6	58·1	44·6	13·5	51·4
INVERNESS, (Inverness.) THOS. WALLACE, High School.	114	July	29·809	29·934	0·810	68·0	42·2	25·8	59·9	48·9	11·0	54·4
		Aug.	29·741	29·866	0·567	68·4	42·0	26·4	60·7	47·8	12·9	54·2
		Sept.	29·874	29·999	1·450	70·0	35·4	34·6	60·4	48·7	11·7	54·5
FORT AUGUSTUS, (Inverness.) Rev. CYRIL VON DIECKHOFF, St Benedict's Priory.	73	July	29·860	29·940	0·885	71·0	39·0	32·0	60·4	47·9	12·5	54·1
		Aug.	29·783	29·863	0·582	66·6	35·3	31·3	59·8	46·5	13·3	53·2
		Sept.	29·905	29·986	1·367	68·4	29·9	38·5	59·5	47·1	12·4	53·3
FORT WILLIAM, (Inverness.) R. T. OMOND, F.R.S.E., and ANGUS RANKIN.	42	July	29·907	29·953	0·897	67·2	39·0	28·2	60·9	48·5	12·4	54·7
		Aug.	29·824	29·870	0·602	67·8	39·8	28·0	61·2	48·5	12·7	54·8
		Sept.	29·951	29·997	1·476	69·9	34·0	35·9	60·0	47·7	12·3	53·8
GORDON CASTLE, (Banff.) C. WEBSTER, Gardener to the Duke of Richmond and Gordon.	107	July	29·807	29·923	0·850	72·0	40·0	32·0	60·8	46·9	13·9	53·8
		Aug.	29·744	29·861	0·540	71·0	38·5	32·5	60·9	46·6	14·3	53·7
		Sept.	29·866	29·983	1·340	70·0	31·5	38·5	60·2	46·2	14·0	53·2

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
							inch.											lbs.	days	inch.
...	...	...	...	48·8	...	...	...	...	10	3	3	2	1	3	3	6	0	4·68	7	...
...	...	...	...	49·3	...	...	...	...	12	3	2	2	3	1	4	3	1	4·49	9	...
...	...	...	...	49·0	...	...	...	...	5	1	0	2	10	5	2	5	0	4·00	10	...
...	...	...	...	49·8	47·3	44·6	·295	83	12	4	2	0	4	2	2	4	1	1·01	15	1·78
...	...	...	...	50·9	48·0	45·0	·300	81	8	0	3	2	4	4	1	8	1	1·74	10	2·33
..	...	...	...	49·6	47·4	45·0	·301	85	6	3	0	1	11	2	3	3	1	3·42	18	1·94
...	...	...	...	49·8	47·9	45·9	·310	87	9	1	3	2	3	0	6	7	0	1·32	19	2·48
...	...	...	...	50·2	48·2	46·1	·312	86	5	2	3	3	5	3	2	2	6	1·12	13	2·67
..	...	...	...	50·4	48·8	47·1	·325	90	4	3	1	3	8	3	3	5	0	1·74	20	2·39
...	...	...	...	50·2	47·8	45·3	·302	84	3	0	2	4	3	0	10	9	0	1·93	22	2·56
...	...	...	...	51·0	48·5	45·9	·311	83	4	4	4	3	1	4	5	6	0	1·28	13	2·12
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	52·3	49·5	46·3	·314	78	3	2	1	6	2	3	3	11	0	...	17	3·54
...	...	...	...	52·8	50·4	48·0	·335	84	4	1	5	6	2	4	4	5	0	...	9	1·31
...	...	...	...	52·6	50·0	47·4	·327	82	3	3	5	4	1	4	5	5	0	...	13	1·85
...	...	...	...	51·1	48·3	45·4	·305	81	5	0	7	0	0	0	19	0	0	2·85	24	4·57
...	...	...	...	52·0	49·1	46·1	·313	81	8	0	7	0	1	0	15	0	0	2·52	22	5·62
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	52·0	50·4	48·8	·345	89	3	6	2	1	2	6	4	5	2	2·01	21	2·64
...	...	...	...	53·0	50·3	47·6	·330	82	3	2	8	1	2	6	5	3	1	1·93	19	2·50
...	...	...	...	53·0	50·8	48·6	·342	85	3	1	3	1	4	5	6	4	3	1·44	20	2·72
...	...	...	...	53·2	...	...	...	...	7	3	0	1	2	5	7	5	1	3·31	17	1·86
...	...	...	...	54·0	...	...	...	...	4	3	5	1	4	5	4	3	2	2·96	11	1·58
...	...	...	...	54·3	...	...	...	...	4	2	1	1	6	6	6	3	1	4·20	14	3·29
...	...	...	...	51·6	48·2	44·7	·297	77	1	6	0	0	0	13	4	7	0	...	18	1·88
...	...	...	...	51·6	48·8	46·0	·311	82	2	2	0	0	3	11	5	8	0	...	19	2·51
...	...	...	...	51·8	48·9	45·9	·312	80	3	0	2	1	1	17	2	4	0	...	20	2·13
112·0	93·0	37·2	45·5	54·1	51·1	48·3	·336	81	4	5	4	0	0	6	7	5	0	1·96	20	3·25
106·8	98·7	36·0	43·9	54·0	51·2	48·5	·339	81	2	7	4	0	1	7	6	4	0	1·69	13	2·68
110·4	90·2	29·0	43·4	53·1	51·0	48·9	·346	85	0	4	3	0	1	10	7	2	3	1·93	14	1·89
...	...	...	...	53·9	50·7	47·6	·329	79	5	6	1	0	11	4	1	1	2	2·56	19	1·81
...	...	...	...	53·3	50·9	48·5	·341	83	3	9	0	0	7	4	1	1	6	1·69	16	2·66
...	...	..	...	52·8	50·5	48·2	·338	85	3	3	0	1	8	7	2	0	6	1·25	20	2·31
129·1	111·3	27·0	42·7	53·8	50·6	47·5	·327	79	3	3	0	1	2	13	3	1	5	0·24	20	3·58
130·0	108·6	30·7	43·5	53·7	51·0	48·4	·338	82	6	1	1	3	1	6	3	1	9	0·11	22	4·82
118·1	94·8	27·3	45·7	53·3	51·0	48·7	·343	84	3	1	1	2	3	8	4	1	7	0·20	24	5·32
...	...	...	...	53·3	50·2	47·1	·323	79	0	3	0	5	1	7	2	13	0	...	25	4·41
...	...	...	...	53·5	50·4	47·3	·326	79	0	4	0	4	1	7	1	14	0	...	18	2·33
...	..	...	...	53·5	50·5	47·5	·329	80	1	2	0	11	1	7	1	7	0	...	20	1·55

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
BRAEMAR, (Aberdeen.) JAMES AITKEN, Banker.	1114	July	28·732	29·927	0·950	70·0	34·4	35·6	58·3	45·2	13·1	51·7
		Aug.	28·671	29·864	0·558	66·1	33·8	32·3	57·9	43·7	14·2	50·8
		Sept.	28·795	29·991	1·246	67·2	32·6	34·6	56·1	44·1	12·0	50·1
LOANHEAD, (Aberdeen.) ALEX. FARQUHARSON.	747	July	29·110	29·915	0·871	73·1	38·0	35·1	61·5	45·6	15·9	53·5
		Aug.	29·057	29·863	0·554	69·2	38·7	30·5	60·5	44·9	15·6	52·7
		Sept.	29·188	29·998	1·223	75·8	36·3	39·5	59·6	45·1	14·5	52·3
TILLYPRONIE, (Aberdeen.) ROBERT LITTLEJOHN, Gardener to Sir John F. Clark, Bart.	1120	July	28·714	29·918	0·878	69·2	37·8	31·4	57·8	44·5	13·3	51·2
		Aug.	28·661	29·862	0·578	68·7	37·3	31·4	57·6	43·5	14·1	50·5
		Sept.	28·784	29·994	1·330	73·2	30·3	42·9	57·0	42·9	14·1	49·9
ABERDEEN, (Aberdeen.) PETER HARPER, Superintendent, Duthie Park.	44	July	29·868	29·917	0·925	72·4	40·0	32·4	61·9	47·6	14·3	54·8
		Aug.	29·812	29·860	0·600	69·8	42·0	27·8	60·9	46·5	14·4	53·7
		Sept.	29·950	29·999	1·190	70·0	37·6	32·4	58·4	45·8	12·6	52·1
HADDO HOUSE, (Aberdeen.) JOHN FORREST, Gardener to the Earl of Aberdeen.	194	July	29·719	29·915	0·940	74·0	36·0	38·0	60·1	45·6	14·5	52·9
		Aug.	29·650	29·860	0·616	68·5	41·5	27·0	59·8	46·3	13·5	53·1
		Sept.	29·777	29·990	1·212	71·0	35·0	36·0	58·0	45·8	12·2	51·9
PETERHEAD, (Aberdeen.) Dr W. H. M'WALTER, H.M. Prison.	100	July	29·803	29·912	0·838	71·1	40·0	31·1	57·9	48·3	9·6	53·1
		Aug.	29·759	29·868	0·640	67·6	44·0	23·6	57·7	47·8	9·9	52·8
		Sept.	29·882	29·993	1·214	66·8	38·0	28·8	56·9	47·3	9·6	52·1
CRATHES, (Kincardine.) J. SMITH.	145	July	29·765	29·923	0·990	75·0	37·0	38·0	62·0	46·0	16·0	54·0
		Aug.	29·712	29·870	0·618	71·0	36·0	35·0	61·8	44·3	17·5	53·0
		Sept.	29·840	29·999	1·250	71·0	33·0	38·0	59·9	44·8	15·1	52·3
MONTROSE (Royal Asylum), (Forfar.) Dr JOHN G. HAVELOCK.	200	July	29·705	29·922	0·994	72·0	40·0	32·0	60·2	48·1	12·1	54·2
		Aug.	29·656	29·874	0·650	65·6	40·3	25·3	58·1	47·1	11·0	52·6
		Sept.	29·779	29·998	1·184	69·6	40·2	29·4	57·7	46·6	11·1	52·2
ARBROATH, (Forfar.) JAMES CAMPBELL, "For the Natural History Assoc. of Arbroath."	68	July	29·860	29·933	0·986	77·0	40·0	37·0	61·9	48·1	13·8	55·0
		Aug.	29·806	29·879	0·670	72·0	39·0	33·0	61·2	47·4	13·8	54·3
		Sept.	29·934	30·007	1·276	71·0	39·0	32·0	58·6	46·6	12·0	52·6
DUNDEE, (Forfar.) (Eastern Necropolis), JOHN CARNOCHAN, Curator.	164	July	29·756	29·935	0·980	74·6	40·1	34·5	63·2	48·1	15·1	55·6
		Aug.	29·692	29·871	0·650	73·2	38·2	35·0	62·4	47·0	15·4	54·7
		Sept.	29·831	30·010	1·300	69·6	36·8	32·8	59·2	46·9	12·3	53·1
DUNDEE (Harbour), (Forfar.) J. THOMSON, Jr., A.M.I.C.E., The Harbour Trust.	20	July	29·920	29·939	0·916	75·0	40·2	34·8	66·7	48·4	18·3	57·5
		Aug.	29·851	29·869	0·658	72·5	41·0	31·5	65·0	49·0	16·0	57·0
		Sept.	29·988	30·007	1·316	73·0	40·8	32·2	61·7	47·8	13·9	54·7
LEDNATHIE, (Forfar.) WILLIAM MORRISON, Gardener to Patrick Stormonth Darling.	720	July	29·157	29·932	0·960	70·0	33·5	36·5	60·3	44·0	16·3	52·2
		Aug.	29·089	29·864	0·620	71·0	34·8	36·2	59·2	43·	16·0	51·2
		Sept.	29·218	30·001	1·252	71·2	33·8	37·4	58·1	42·0	16·1	50·1
BALRUDDERY, (Forfar.) R. CAIRNS, Gardener to J. Martin White.	280	July	29·667	29·955	0·906	72·0	38·0	34·0	62·7	45·7	17·0	54·0
		Aug.	29·575	29·878	0·624	72·0	37·0	35·0	62·2	46·2	16·0	54·2
		Sept.	29·702	30·009	1·318	73·0	34·0	39·0	60·4	45·0	15·4	52·7
PERTH, (Perth.) JOHN LESLIE, Gardener to Henry Coats.	105	July	29·815	29·930	0·936	77·5	37·5	40·0	64·3	46·8	17·5	55·5
		Aug.	29·759	29·874	0·636	72·0	36·0	36·0	62·9	46·3	16·6	54·6
		Sept.	29·894	30·009	1·364	71·0	36·5	34·5	60·6	45·1	15·5	52·9
STRONVAR, (Perth.) JAMES DICKSON, Gardener to James Carnegie.	422	July	29·481	29·940	0·920	73·0	31·0	42·0	62·4	46·3	16·1	54·3
		Aug.	29·408	29·868	0·590	71·0	33·0	38·0	61·8	44·7	17·1	53·2
		Sept.	29·549	30·010	1·340	69·0	30·0	39·0	60·2	45·1	15·1	52·6

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.							Number of Days it blew in certain Directions.											
Highest.	Mean.	Lowest.	Mean.	Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Pressure on square foot.	Number of days it fell.	Amount.
							inch.											lbs.	days	inch
129·8	107·6	29·2	41·9	51·3	48·0	44·6	·296	78	5	6	1	1	1	9	3	5	0	0·36	17	1·84
118·2	96·5	27·3	39·3	50·4	47·6	44·7	·296	82	2	6	3	3	4	7	3	3	0	0·11	22	2·73
120·4	92·3	25·9	39·4	49·9	47·3	44·6	·294	83	2	3	2	1	2	15	2	3	0	0·31	17	2·06
...	...	...	...	53·2	50·3	47·4	·328	81	1	1	1	3	0	4	1	14	6	0·49	18	3·54
...	...	...	...	52·2	49·9	47·6	·331	84	2	1	1	1	0	3	1	10	12	0·14	18	2·79
...	...	...	...	52·1	50·2	48·3	·339	86	2	1	0	5	0	2	1	5	14	0·15	16	1·69
122·5	99·9	35·5	42·0	50·9	47·9	44·8	·298	80	8	2	0	2	0	7	1	11	0	2·10	20	5·02
128·0	99·8	34·5	41·2	49·4	47·0	44·4	·293	84	16	1	0	0	5	3	2	4	0	1·08	21	2·96
115·0	86·8	31·0	42·2	49·3	47·4	45·3	·304	87	1	2	0	0	5	3	2	17	0	1·21	25	1·92
...	...	...	...	54·8	52·6	50·5	·368	86	3	1	1	3	1	7	7	8	0	1·21	15	3·97
...	...	...	...	53·5	51·2	48·9	·345	84	2	5	1	1	5	5	2	10	0	1·34	16	2·75
...	...	...	...	51·4	49·6	47·8	·333	88	1	3	1	4	6	7	3	5	0	1·39	14	1·36
...	...	30·0	42·3	52·6	50·2	47·8	·332	83	5	1	0	4	3	4	4	10	0	...	24	3·87
...	...	36·0	42·6	52·3	50·3	48·3	·339	86	5	3	0	5	4	5	1	8	0	...	19	3·22
...	...	32·0	42·8	52·1	50·4	48·7	·344	88	3	2	0	6	3	8	1	7	0	...	20	1·53
...	...	...	...	53·0	50·2	47·0	·322	78	7	0	2	2	3	1	8	7	1	3·13	18	3·71
...	...	...	...	52·8	50·0	46·8	·320	78	3	6	0	3	5	6	3	5	0	1·23	11	...
...	...	...	...	53·2	50·1	47·0	·325	80	5	2	1	1	7	5	3	6	0	1·08	7	2·00
...	...	30·0	44·7	54·0	51·0	48·1	·334	80	5	0	3	1	3	5	4	9	1	2·01	15	3·26
...	...	30·0	40·7	53·0	50·5	48·0	·335	83	7	2	1	5	7	2	1	3	3	1·11	18	2·44
...	...	26·5	38·2	52·7	50·4	48·1	·336	85	3	2	0	5	5	6	2	4	3	1·98	13	1·35
...	...	...	...	53·7	50·6	47·6	·329	80	6	0	3	3	5	5	4	5	0	2·86	13	2·79
...	...	...	...	52·2	49·8	47·4	·328	84	3	3	3	4	5	2	6	5	0	2·19	14	3·01
...	...	...	...	51·9	49·8	47·7	·331	87	4	3	0	2	5	3	9	4	0	2·85	10	1·83
94·0	75·0	37·0	45·2	54·9	51·4	48·1	·336	77	3	1	3	2	2	8	7	5	0	2·00	14	2·57
96·5	74·4	35·0	44·5	54·3	51·0	47·8	·331	78	4	3	5	4	3	2	6	4	0	1·66	15	1·94
92·5	70·3	36·0	44·1	52·8	50·5	48·2	·337	85	4	2	2	5	2	3	10	2	0	1·18	16	1·26
...	...	...	...	55·5	52·4	49·4	·354	80	1	3	1	7	0	6	7	6	0	1·61	13	2·81
...	...	...	...	53·9	51·6	49·4	·351	85	0	2	3	11	0	8	3	4	0	0·74	19	3·08
...	...	...	...	52·4	50·7	49·4	·348	89	0	4	1	8	0	6	5	6	0	1·08	16	1·53
...	...	...	...	57·0	53·3	49·9	·359	77	2	2	7	2	1	1	14	2	0	0·51	18	3·18
...	...	...	...	55·3	53·0	50·8	·372	85	1	1	9	5	0	3	8	3	1	0·47	21	3·02
...	...	...	...	54·2	51·6	49·0	·348	83	1	1	6	3	1	3	12	3	0	0·79	20	1·35
...	...	...	...	52·4	49·1	45·7	·309	79	5	1	0	5	0	3	7	10	0	1·72	17	3·07
...	...	...	...	51·2	48·5	45·7	·309	82	1	2	2	8	2	3	7	6	0	1·25	22	3·49
...	...	...	...	51·1	49·2	47·2	·327	86	2	2	4	5	1	4	5	6	1	1·44	17	3·08
...	...	...	...	54·8	51·2	47·8	·332	77	4	3	2	2	1	5	9	5	0	1·87	17	3·18
...	...	...	...	53·6	51·4	49·3	·350	85	4	2	4	3	1	5	8	4	0	1·87	17	3·93
...	...	...	...	52·7	50·8	48·9	·347	88	4	2	3	2	1	4	10	4	0	1·76	13	1·68
...	...	...	...	55·2	52·0	48·9	·347	80	2	1	5	0	1	2	15	4	1	0·39	...	2·30
...	...	...	...	53·4	51·3	49·2	·350	86	2	2	5	3	2	2	9	1	5	0·25	...	3·49
...	...	...	...	52·6	50·6	48·6	·343	86	2	2	5	2	4	3	5	2	5	0·14	...	2·19
...	...	...	...	53·7	50·4	47·2	·324	78	5	5	1	1	0	3	11	5	0	1·95	23	2·94
...	...	...	...	52·8	50·4	48·0	·333	84	4	1	4	2	1	4	8	7	0	2·19	18	3·47
...	...	...	...	52·0	49·8	47·6	·330	85	2	4	1	4	3	3	8	5	0	2·46	19	5·33

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
OCHTERTYRE, (Perth.) George Croucher, Gardener to Sir Patrick Keith Murray, Bart.	333	July	29·589	29·951	1·006	75·0	36·0	39·0	65·3	46·5	18·8	55·9
		Aug.	29·518	29·879	0·636	77·0	38·0	39·0	64·5	47·3	17·2	55·9
		Sept.	29·651	30·013	1·382	76·0	33·0	43·0	61·8	46·0	15·8	53·9
CUPAR, (Fife.) Dr Turnbull, Fife and Kinross District Asylum.	210	July	29·709	29·937	0·882	74·0	40·0	34·0	63·8	47·2	16·6	55·5
		Aug.	29·650	29·878	0·680	74·0	39·0	35·0	63·3	46·4	16·9	54·9
		Sept.	29·780	30·010	1·304	72·0	35·0	37·0	61·0	46·6	14·4	53·8
BUCHLYVIE, (Stirling.) Rev. John A. Macdonald.	125	July	29·813	29·950	0·940	74·0	38·0	36·0	63·9	47·2	16·7	55·5
		Aug.	29·745	29·882	0·630	73·0	38·0	35·0	64·3	46·3	18·0	55·3
		Sept.	29·881	30·018	1·390	70·0	32·0	38·0	61·5	45·8	15·7	53·6
HELENSBURGH, (Dumbarton.) J. R. Wilson, Waterworks.	18	July	...	...	...	70·0	43·0	27·0	62·2	49·0	13·2	55·6
		Aug.	...	...	...	67·9	43·0	24·9	62·6	49·2	13·4	56·0
		Sept.	...	...	...	67·1	34·2	32·9	59·3	48·4	10·9	53·9
DUMBARTON, (Dumbarton.) William Denny and Brothers.	27	July	29·932	29·961	0·956	74·8	37·1	37·7	64·3	48·1	16·2	56·2
		Aug.	29·848	29·878	0·698	72·8	38·7	34·1	63·6	45·3	18·3	54·5
		Sept.	29·985	30·015	1·452	68·6	31·8	36·8	61·4	48·0	13·4	54·7
LOCHBUIE (Argyll.) George Carson, Gardener to the Maclaine of Lochbuie.	20	July	29·937	29·959	0·850	75·0	38·5	36·5	59·6	48·8	10·9	54·2
		Aug.	29·847	29·869	0·697	67·6	40·2	27·4	60·7	49·2	11·5	55·0
		Sept.	29·989	30·010	1·458	65·2	38·2	27·0	59·4	49·5	9·9	54·5
AIRDS, (Argyll.) Colonel Macfie, C.B., and Alexander M'Lachlan.	15	July	29·941	29·957	0·850	74·0	42·0	32·0	59·7	48·2	11·5	54·0
		Aug.	29·864	29·879	0·650	66·5	44·0	22·5	60·7	49·8	10·9	55·2
		Sept.	29·987	30·003	1·410	65·0	37·0	28·0	59·0	49·3	9·7	54·2
POLTALLOCH, (Lochgilphead. Argyll.) D. S. Melville, Gardener.	135	July	29·804	29·953	0·840	74·0	...	...	63·1	...	...	...
		Aug.	29·732	29·881	0·640	73·0	...	...	64·2	...	...	...
		Sept.	29·870	30·017	1·530	70·0	37·0	33·0	62·1	48·7	13·4	55·4
ROTHESAY, (Isle of Bute.) James Kay, Barone Cottage.	116	July	29·844	29·970	0·982	70·3	39·5	30·8	63·1	47·6	15·5	55·4
		Aug.	29·760	29·885	0·676	73·8	40·0	33·8	64·8	47·8	16·5	56·0
		Sept.	29·892	30·018	1·500	72·3	34·0	38·3	61·7	47·1	14·6	54·4
GREENOCK, (Renfrew.) Daniel Macalister, C.E., Waterworks.	238	July	29·712	29·960	0·945	73·0	41·2	31·8	62·2	48·9	13·3	55·5
		Aug.	29·633	29·881	0·608	70·0	43·0	27·0	61·7	48·8	12·9	55·3
		Sept.	29·778	30·026	1·391	68·2	35·7	32·5	59·7	48·1	11·6	53·9
PAISLEY, (Renfrew.) Donald Maclean, The Coats Observatory.	107	July	29·840	29·957	0·985	74·5	41·9	32·6	63·5	49·4	14·1	56·4
		Aug.	29·761	29·878	0·638	73·1	41·0	32·1	65·0	48·9	16·1	56·9
		Sept.	29·901	30·018	1·489	69·2	35·5	33·7	61·9	48·5	13·4	55·2
PINMORE, (Ayr.) Robert Torrance, Gardener to Hugh Hamilton of Pinmore.	190	July	29·783	29·989	0·972	73·0	36·0	37·0	63·7	48·3	15·4	56·0
		Aug.	29·685	29·891	0·600	73·0	35·0	38·0	64·0	46·8	17·2	55·4
		Sept.	...	...	...	...	...	...	...	...	...	...
BOWHILL, (Ayr.) Alexander Gillespie, C.E.	978	July	28·938	29·987	0·997	64·0	39·0	25·0	57·9	46·2	11·7	52·0
		Aug.	28·841	29·896	0·650	65·0	36·0	29·0	58·3	45·1	13·2	51·7
		Sept.	28·966	30·027	1·590	64·0	29·0	35·0	56·2	43·8	12·4	50·0
GLASGOW (Belvidere Hosp.), (Lanark.) John Brownlee, M.D.	54	July	29·894	29·954	0·984	73·0	41·2	31·8	64·2	48·7	15·5	56·3
		Aug.	29·827	29·886	0·662	72·5	37·2	35·3	68·7	48·7	15·0	56·2
		Sept.	29·959	30·019	1·474	70·2	34·1	36·1	62·7	47·4	15·3	55·0
GLASGOW (Observatory), (Lanark.) Professor Becker, F.R.S.E.	184	July	29·754	29·954	0·984	71·6	42·1	29·5	61·3	49·6	11·7	55·4
		Aug.	29·676	29·876	0·633	69·6	39·0	30·6	61·2	49·0	12·2	55·1
		Sept.	29·813	30·014	1·455	66·6	35·0	31·6	59·0	49·1	9·9	54·1

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.											RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.		Number of days it fell.	Amount.
High-est.	Mean.	Low-est.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.				
°	°	°	°	°	°	°	inch.											lbs.		days	inch.
135·0	117·8	30·0	43·0	54·4	50·6	46·9	·321	76	2	2	4	2	1	4	14	2	0	0·46		18	2·81
144·0	114·8	31·0	43·2	53·5	50·5	47·5	·329	80	2	1	9	1	0	2	10	3	3	0·18		19	3·98
140·0	104·8	28·0	42·1	52·6	50·1	47·6	·330	84	1	2	8	1	1	1	11	4	1	0·34		13	2·82
...	...	...	...	55·4	52·5	49·7	·358	82	10	1	4	1	0	0	12	3	0	1·80		15	1·84
...	...	...	...	54·1	50·4	46·8	·319	76	2	1	11	0	2	2	9	2	2	1·10		11	1·93
...	...	...	..	53·6	50·5	47·5	·328	79	2	0	8	1	2	0	13	3	1	1·51		9	1·20
...	...	...	...	55·1	52·3	49·6	·356	82	2	1	5	1	0	3	14	4	1	0·66		26	3·87
...	...	...	...	54·4	52·2	50·0	·362	85	0	2	9	0	1	2	10	6	1	0·51		18	4·70
...	...	...	..	52·7	50·0	47·2	·326	82	1	0	7	2	0	3	10	4	3	0·67		24	3·82
...	...	...	...	55·5	52·0	48·6	·344	78	6	1	1	0	6	2	11	4	0	...		21	3·52
...	...	...	...	55·8	52·7	49·8	·360	80	12	0	3	0	4	2	10	0	0	...		15	2·67
...	...	...	...	53·8	51·5	49·3	·351	85	12	0	3	0	4	0	11	0	0	...		17	4·12
...	...	...	...	56·9	53·7	50·7	·370	80	2	0	2	1	3	4	12	5	2	0·34		21	2·64
...	...	...	...	54·5	51·3	48·2	·337	79	1	1	2	1	0	1	3	8	14	0·10		14	3·09
...	...	...	...	54·3	51·6	48·9	·347	82	1	0	1	2	0	4	1	5	16	0·10		16	3·58
...	...	...	...	54·2	51·4	48·7	·342	81	7	5	0	0	4	11	0	4	0	...		20	6·44
...	...	...	...	54·9	52·1	49·4	·353	82	5	2	0	2	8	13	0	1	0	...		17	6·39
...	...	...	...	54·5	52·3	50·1	·362	85	0	6	1	3	3	17	0	0	0	...		20	7·94
...	...	...	...	54·7	51·5	48·5	·341	79	9	1	4	0	2	1	13	1	0	2·62		10	3·17
...	...	...	...	55·4	52·6	49·9	·361	83	8	2	4	2	4	1	9	1	0	1·99		11	4·24
...	...	...	...	54·7	53·1	51·6	·382	90	8	1	3	4	6	1	7	0	0	1·88		8	4·52
108·0	87·2	44·0	50·5	54·3	52·0	49·7	·357	84	7	2	1	1	0	4	5	1	10	0·79		19	3·83
110·0	89·8	39·8	47·9	54·5	52·3	50·1	·362	85	1	2	1	2	2	6	4	1	12	0·51		18	3·10
93·0	75·9	33·0	43·5	54·5	52·6	50·7	·371	87	0	3	1	3	4	5	1	2	11	0·73		17	4·76
...	...	...	...	54·0	51·4	48·9	·344	82	1	2	2	1	1	7	6	8	3	0·72		24	4·77
...	...	...	...	53·9	51·5	49·3	·351	85	3	4	4	1	3	2	7	4	3	0·80		14	3·71
...	...	...	...	52·4	50·8	49·2	·351	80	0	3	4	3	3	3	3	5	6	0·58		16	5·12
...	...	...	...	55·9	52·6	49·5	·357	80	0	4	1	0	0	5	11	10	0	3·13		18	4·03
...	...	...	...	55·3	51·5	49·8	·359	82	0	5	3	3	0	4	8	7	1	2·49		16	3·89
...	...	...	...	53·8	51·4	49·1	·348	84	0	1	2	7	0	7	7	5	1	2·52		18	4·98
92·1	77·1	34·2	45·5	56·0	52·2	48·6	·345	76	2	3	2	0	3	8	10	2	1	1·12		21	2·64
85·8	75·6	33·9	45·1	55·4	52·2	49·1	·350	80	2	5	2	0	3	1	12	2	4	0·60		15	2·76
83·9	66·6	28·4	45·4	54·0	51·4	48·9	·344	82	1	4	6	1	3	6	6	1	2	0·77		20	3·48
...	...	...	...	55·3	52·7	50·2	·364	83	0	0	0	4	12	6	4	0	5	0·60		23	3·53
...	...	...	...	55·2	52·9	50·7	·370	85	0	0	0	2	3	0	8	9	9	0·50		17	2·98
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		...	...
...	...	...	...	51·3	49·1	46·8	·322	85	5	0	2	1	4	6	3	5	0	1·00		17	1·82
...	...	...	...	51·3	49·3	47·2	·327	86	2	0	5	3	6	3	9	3	0	1·00		17	1·84
...	...	...	...	51·0	49·0	46·9	·323	86	2	2	2	5	9	3	5	2	0	1·00		18	3·11
...	...	...	...	56·5	53·6	50·8	·374	82	2	1	6	1	0	10	4	7	0	0·64		13	1·89
...	...	..	...	55·8	53·4	51·2	·378	84	8	0	11	0	1	1	1	8	1	0·26		10	1·48
..	...	...	...	54·8	51·8	48·9	·348	81	4	2	14	1	0	0	2	5	2	0·61		15	2·13
129·6	109·5	34·2	43·9	54·5	51·1	47·8	·332	78	1	2	3	0	1	7	14	3	0	0·42		18	2·83
130·2	109·4	32·1	43·3	54·0	51·0	48·1	·334	80	0	1	9	1	1	4	9	1	5	0·25		14	2·56
117·3	94·6	25·4	42·2	53·2	50·8	48·4	·340	84	1	2	6	1	1	7	7	0	5	0·26		16	2·99

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
BOTHWELL, (Lanark.)	...	July	...	...	...	72·4	38·0	34·4	63·2	47·8	15·4	55·5
John T. Wilson, M.D.		Aug.	...	...	...	72·0	35·0	37·0	62·8	46·3	16·5	54·6
		Sept.	...	...	...	68·6	29·0	39·6	60·5	46·7	13·8	53·6
LEADHILLS, (Lanark.)	1300	July	...	...	...	70·5	37·5	33·0	58·8	45·7	13·1	52·2
James M'Farlane.		Aug.	...	...	...	65·0	32·0	33·0	59·0	39·4	19·6	49·2
		Sept.	..	...	...	65·5	28·0	37·5	58·7	40·9	17·8	49·8
EDINBURGH, Royal Observatory,	441	July	29·482	29·954	0·996	67·9	43·6	24·3	60·7	48·6	12·1	54·6
(Edinburgh.)		Aug.	29·411	29·887	0·612	69·8	40·3	29·5	60·3	48·0	12·3	54·2
Professor Copeland, F.R.S.E.		Sept.	29·548	30·026	1·384	67·2	35·7	31·5	58·0	48·7	9·3	53·3
CORSTORPHINE, (Edinburgh.)	165	July	29·774	29·954	0·972	69·3	38·4	30·9	63·1	47·8	15·3	55·4
T. N. Johnston, M.B.		Aug.	29·709	29·889	0·600	71·3	37·6	33·7	63·4	47·0	16·4	55·2
		Sept.	29·842	30·023	1·392	78·5	34·6	43·9	61·0	46·3	14·7	53·6
LEITH, (Edinburgh.)	76	July	29·867	29·950	0·991	71·9	43·0	28·9	62·9	50·6	12·3	56·7
James Bolam, Navigation School,		Aug.	29·798	29·881	0·663	71·9	42·9	29·0	63·1	49·9	13·2	56·5
and George Redpath.		Sept.	29·933	30·016	1·384	70·3	38·8	31·5	60·9	49·3	11·6	55·1
DALKEITH, (Edinburgh.)	190	July	29·747	29·953	1·000	71·0	39·0	32·0	63·4	49·1	14·3	56·2
J. Whytock, Gardener to the Duke		Aug.	29·676	29·882	0·600	72·0	38·0	34·0	63·2	47·4	15·8	55·3
of Buccleuch.		Sept.	29·820	30·026	1·320	71·0	35·0	36·0	61·2	46·3	14·9	53·8
SMEATON, (Haddington.)	100	July	29·842	29·951	1·020	76·0	38·0	38·0	63·8	47·9	15·9	55·8
John Black, Gardener to Sir Archibald Buchan Hepburn, Bart.		Aug.	29·779	29·888	0·630	75·5	35·5	40·0	65·7	45·7	20·0	55·7
		Sept.	29·918	30·027	1·340	73·5	33·5	40·0	62·3	45·3	17·0	53·8
MARCHMONT, (Berwick.)	500	July	29·420	29·961	1·070	72·0	36·0	36·0	61·3	45·8	15·5	53·5
John A. Wood, Gardener.		Aug.	29·337	29·880	0·680	70·0	36·0	34·0	61·3	44·9	16·4	53·1
		Sept.	29·484	30·027	1·330	71·0	35·0	36·0	59·6	45·7	13·9	52·7
DUNS CASTLE, (Berwick.)	500	July	29·420	29·962	1·038	72·4	36·4	36·0	62·7	45·7	17·0	54·2
Robert Aikman, Gardener to R.		Aug.	29·344	29·887	0·608	72·4	40·0	32·4	63·4	45·8	17·6	54·6
Mordaunt Hay.		Sept.	29·484	30·025	1·315	72·0	36·4	35·6	61·7	45·1	16·6	53·5
NORTH ESK (Peebles.)	1150	July	...	...	...	...	...	...	...	...	...	...
RESERVOIR,		Aug.	...	...	...	...	...	...	...	...	...	...
William Tod.		Sept.	...	...	...	...	...	...	...	...	...	...
STOBO CASTLE, (Peebles.)	600	July	29·315	29·963	0·910	...	...	...	...	...	...	...
William Young, Gardener to Sir		Aug.	29·232	29·882	0·610	...	...	...	...	...	...	...
G. G. Montgomery, Bart.		Sept.	29·368	30·020	1·235	...	...	...	...	...	...	..
BROOMLANDS, (Roxburgh.)	205	July	29·736	29·960	1·046	73·0	37·0	36·0	64·0	47·6	16·4	55·8
James Brunton.		Aug.	29·667	29·891	0·638	71·0	36·5	34·5	63·6	45·2	18·4	54·4
		Sept.	29·806	30·030	1·327	72·8	36·0	36·8	61·2	45·7	15·5	53·4
WOLFELEE; (Roxburgh.)	537	July	29·391	29·973	1·004	74·5	34·5	40·0	63·2	46·0	17·2	54·6
William Gordon,		Aug.	29·297	29·897	0·686	74·0	32·9	41·1	62·7	43·5	19·2	53·1
Gardener to J. T. S. Elliot.		Sept.	29·418	30·021	1·294	72·0	33·0	39·0	60·6	43·8	16·8	52·2
DRUMLANRIG, (Dumfries.)	191	July	29·771	29·975	0·954	74·0	33·0	41·0	63·6	48·3	15·3	56·0
David Inglis,		Aug.	29·700	29·907	0·675	70·4	37·0	33·4	63·1	46·8	16·3	55·0
Gardener to the Duke of Buccleuch.		Sept.	29·817	30·025	1·426	69·4	31·0	38·4	61·6	45·1	16·5	53·4
DUMFRIES, (Dumfries.)	60	July	29·910	29·976	1·088	75·0	36·0	39·0	64·4	50·8	13·6	57·6
Rev. William Andson.		Aug.	29·834	29·900	0·800	76·0	40·0	36·0	65·8	47·0	18·8	56·4
		Sept.	29·948	30·013	1·470	73·0	32·0	41·0	62·4	46·5	15·9	54·5

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
°	°	°	°			°	inch.											lbs.	days	inch.
...	...	...	...	55·0	51·7	48·5	·342	79	...	...	...	...	...	...	...	...	...	...	13	2·65
...	...	...	...	54·4	51·7	49·1	·348	82	...	...	...	...	...	...	...	...	...	...	12	1·61
...	...	...	...	52·8	50·8	48·8	·346	87	...	...	...	...	...	...	...	...	...	...	10	2·76
...	...	...	...	51·1	48·9	46·6	·320	84	...	...	...	...	...	...	...	...	...	...	20	6·02
...	...	...	...	49·8	47·8	45·7	·307	87	...	...	...	...	...	...	...	...	...	...	23	3·48
...	...	...	...	48·8	46·8	44·7	·297	86	...	...	...	...	...	...	...	...	...	...	16	3·72
128·0	109·0	34·9	44·5	53·5	50·4	47·3	·326	79	3	2	2	1	2	3	13	5	0	1·54	16	2·43
129·5	109·1	35·5	44·5	53·2	50·2	47·4	·327	81	2	2	4	2	2	5	11	3	0	0·92	11	1·30
123·6	98·3	30·9	43·3	52·5	50·1	47·7	·331	84	1	1	3	3	4	4	12	1	1	1·63	14	1·40
127·8	112·1	27·3	39·6	54·4	51·2	48·1	·335	79	3	1	5	0	0	1	13	2	6	0·57	20	2·92
134·1	114·7	26·5	38·5	54·0	50·9	47·9	·332	79	3	0	7	0	1	1	10	4	5	0·67	18	1·61
124·5	101·4	23·4	36·3	52·4	50·1	47·8	·333	85	4	0	4	0	1	0	12	1	8	0·49	21	1·46
...	...	...	...	56·0	52·3	48·8	·345	77	3	3	5	1	1	3	10	4	1	2·28	18	3·02
...	...	...	...	55·0	52·0	49·1	·349	81	1	2	8	1	0	3	11	3	2	1·56	18	2·13
...	...	...	...	54·1	51·5	49·0	·347	82	1	1	6	2	2	3	11	2	2	1·59	14	0·99
...	...	...	...	55·6	52·1	48·8	·347	78	2	2	1	2	0	13	4	7	0	...	12	1·10
...	...	...	...	54·4	51·4	48·5	·340	80	1	3	1	3	1	14	4	4	0	...	18	2·10
...	...	...	...	53·7	51·5	49·4	·352	86	0	3	0	4	3	13	2	5	0	...	11	0·50
104·0	84·4	34·0	43·3	56·8	53·7	50·8	·372	80	1	4	5	1	1	2	14	3	0	...	19	3·08
105·0	83·9	31·5	42·8	54·4	52·7	51·0	·376	89	1	2	6	4	5	8	3	2	0	...	12	1·60
96·0	77·1	29·0	42·3	52·3	50·6	49·0	·347	88	1	2	4	4	8	6	4	1	0	...	5	0·88
91·0	74·4	34·0	43·3	53·6	50·6	47·7	·330	80	5	1	7	2	5	1	9	1	0	...	13	2·19
86·0	73·9	32·0	42·4	52·9	50·6	48·3	·339	85	3	2	10	3	3	5	4	1	0	...	17	1·85
89·0	70·2	30·0	41·5	53·1	50·9	48·7	·344	84	3	2	5	4	3	6	6	1	0	...	18	1·43
...	...	...	...	54·0	51·5	48·6	·342	80	10	0	0	0	2	1	18	0	0	1·61	7	1·97
...	...	...	...	54·6	51·8	49·1	·350	82	12	1	0	0	6	2	9	1	0	1·18	10	1·00
...	...	...	...	53·9	51·3	48·8	·343	83	6	0	1	0	11	4	8	0	0	1·25	9	1·19
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·85
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6·15
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2·25
...	...	...	...	54·4	51·5	48·7	·343	81	2	5	1	1	5	3	9	5	0	...	16	2·20
...	...	...	...	53·0	50·1	47·2	·325	81	1	2	4	7	2	8	4	3	0	...	13	1·20
...	...	...	...	52·3	50·4	48·5	·341	87	2	3	3	5	5	6	5	1	0	...	12	1·90
...	...	...	...	55·1	51·6	48·2	·338	78	6	4	1	1	3	4	10	2	0	0·36	15	1·37
...	...	...	...	53·8	51·7	49·7	·356	86	5	5	1	1	1	4	7	4	2	1·23	21	2·18
...	...	...	...	52·8	49·9	47·1	·324	80	0	2	3	1	1	8	5	5	5	0·28	20	1·13
...	...	...	...	53·3	50·4	47·5	·328	80	0	4	1	1	0	0	22	3	0	0·82	15	3·68
...	...	...	...	52·7	49·8	46·9	·321	80	2	4	0	2	0	1	19	3	0	0·47	14	2·23
...	...	...	...	51·0	49·7	47·5	·331	88	1	4	0	2	3	2	17	1	0	1·48	10	1·41
...	...	...	...	55·0	52·5	50·1	·362	84	1	0	0	1	0	11	3	15	0	...	11	2·50
...	...	...	...	54·0	52·4	50·8	·374	89	1	1	3	1	2	15	0	8	0	...	7	2·00
...	...	...	...	52·2	50·3	48·4	·340	87	3	1	0	1	1	12	2	10	0	...	10	2·86
...	...	...	...	56·4	52·6	49·1	·350	77	2	1	2	4	1	11	5	5	0	1·22	16	2·55
...	...	...	...	55·7	52·4	49·3	·354	79	0	4	5	2	2	7	6	5	0	1·10	14	2·91
...	...	...	...	53·9	51·5	49·2	·349	85	1	4	1	4	5	9	4	1	1	1·12	15	2·39

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.							
CARGEN. (Kirkcudbright.) ALEX. PEACOCK, Gardener.	85	July	29·888	29·983	1·020	71·0	35·0	36·0	63·5	47·7	15·8	55·6
		Aug.	29·811	29·906	0·642	71·0	35·0	36·0	64·1	47·5	16·6	55·8
		Sept.	29·925	30·018	1·422	71·0	30·0	41·0	62·5	46·4	16·1	54·5
CALLY. (Kirkcudbright.) WM. THOMSON, Gardener to H. G. Murray Stewart of Broughton.	120	July	29·851	29·982	0·920	70·0	32·4	37·6	64·1	46·2	17·9	55·2
		Aug.	29·769	29·900	0·620	72·4	36·4	36·0	63·1	44·9	18·2	54·0
		Sept.	29·894	30·026	1·400	75·0	31·2	43·8	62·1	46·3	15·8	54·2
BEN NEVIS OBSERVATORY, (Inverness.) R. T. OMOND, F.R.S.E. and ANGUS RANKIN.	4407	July	25·426	29·938	0·886	53·1	28·1	25·0	41·2	33·9	7·3	37·6
		Aug.	25·365	29·863	0·545	47·9	28·1	19·8	40·8	35·1	5·7	38·0
		Sept.	25·476	29·995	1·329	50·0	23·1	26·9	41·7	35·1	6·6	38·4

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
	°	°	°	°	°	°	inch.											lbs.	days	inch.
...	...	...	...	56·1	54·4	52·8	·401	88	1	2	3	4	5	7	5	4	0	1·17	14	2·50
...	...	...	...	56·1	53·9	51·8	·387	85	1	1	8	4	4	4	5	4	0	0·90	16	2·98
...	...	...	...	54·4	51·8	49·8	·354	83	1	1	6	4	7	5	4	2	0	0·96	12	2·61
...	...	...	...	54·7	52·3	50·0	·360	84	8	0	0	2	1	9	2	9	0	0·43	17	4·11
...	...	...	...	54·1	52·2	50·3	·365	86	2	5	0	4	3	7	2	8	0	0·60	13	4·55
...	...	...	...	53·5	51·7	49·9	·359	88	2	5	1	2	2	8	1	9	0	0·96	15	4·41
...	...	...	...	37·7	37·1	36·3	·214	95	8	3	0	1	3	4	5	4	3	0·36	23	12·22
...	...	...	...	37·9	37·6	37·1	·221	97	7	2	1	4	2	4	4	3	4	0·44	25	9·37
...	...	...	...	38·6	37·6	36·8	·215	92	9	1	2	6	2	4	4	1	1	0·85	26	12·45

Continuation of page 111.]

pressure slightly above the average, with a remarkably low monthly range; an exceedingly low mean temperature, with a mean daily range about the average; a mean humidity slightly below the average; a mean rainfall considerably below the average, and falling on one day less than the average number; a 3 days' excess of moderate winds from a N.E. quarter.

The mean barometric pressure was 29·872 inches, or 0·014 inch above the average. The month was remarkably free from large variations of pressure, and the barometric range of 0·615 inch was the lowest recorded for Scotland in the month of August during 47 years. Pressure was in general highest on the 1st, and lowest on the 18th, the extremes at Leith being 30·175 inches and 29·512 inches.

The mean temperature was 53°·9, or 2°·7 below the average. In 1881 and 1885 the mean temperature for August was 53°·6, but in no other year during the last 47, has it been below 54°. The days were 2°·5, and the nights 2°·9, below their respective means. Temperature was everywhere much below the average, but the deficiency was less in the West than in the East, and was greatest in the North-East of the country, where the influence of the cold prevailing N.E. winds was most felt. Thus the defect was 1°·8 at Greenock, and 1°·1 at Paisley, whilst at Aberdeen it was 3°·7, and at Kirkwall 3°·9. The first three weeks of the month were abnormally cold, but thereafter there was a considerable amount of sunshine and comparatively high temperatures prevailed. The absolutely highest temperature was 77°·0 at Ochtertyre on the 15th, and the lowest 32°·0 at Leadhills on the 12th and 14th.

The mean rainfall was 2·79 inches, or 23 per cent. below the average. At Ochtertyre and Perth there was a very slight excess, as also at Haddo House, and at Cally in Kirkcudbrightshire. At Kingussie, Dundee, and in Mull, the rainfall was just equal to the average. Elsewhere there was a more or less heavy deficiency. In the North of Scotland, in the Lothians, and in the South-Eastern counties, only about half the average amount of rain was recorded; whilst in the Clyde area, and along the Caledonian Canal, the deficiency ranged from 15 to 30 per cent. Some very heavy daily amounts were reported on the 18th,—1·49 inch at Perth, and 1·21 at Dumbarton. There were also some heavy falls on the 22nd,—1·02 at Stronvar, and 1·13 at Rothesay.

The heavy rainfall of the 18th was the accompaniment of a severe thunderstorm which was reported generally over the country on that day. A small amount of thunder was reported locally on one or two other days.

SEPTEMBER 1902—

Hence the weather of SEPTEMBER 1902 was characterized by an unusually high mean barometric pressure, with a monthly range much above the average; a mean temperature slightly above the average, with a mean daily range slightly below the average; a mean humidity a little below the average; a mean rainfall greatly below the average, but falling on the average number of days; a slight excess of moderate winds from S.E.

The mean barometric pressure was 30·004 inches, or 0·161 inch above the average. The monthly range was unusually high owing to the passage of a deep depression from S. to N. on the 3rd. Pressure was highest during the last six days of the month, and everywhere lowest on the 3rd, the extremes at Leith at the usual observing hours being 30·523 inches and 29·139 inches. On the afternoon of the 3rd, however, the lowest sea-level reading at Leith was 28·880 inches.

The mean temperature was 53°·1, or 0°·3 above the average. The days were of average temperature, and the nights 0°·5 above the average. In Shetland temperature was below the average by about 2°, and in Orkney by 1°. On the East coast from Peterhead to Arbroath there was a deficiency of from 0°·5 to 1°, and there was also a slight deficiency in the extreme South West. At a very few inland stations also, such as Perth and Wolfelee, temperature was slightly below the normal. But, in general, temperature was above the average, though the excess at few places was as much as 1°. South of the Forth and Clyde the average excess was barely half a degree; but at Kingussie there was an excess of 1°·1, at Inverness of 1°·5, and at Stornoway of 1°·3. The second and third weeks of the month were much colder than the average, the minimum temperature being generally recorded on the 13th. From the 23rd to 28th, when the West of Europe was under the influence of a steady anti-cyclone, warm, bright days prevailed. The absolutely highest temperature was 76°·0 at Ochtertyre on the 8th, and the lowest 28°·0 at Leadhills on the 13th.

The mean rainfall was 2·55 inches, or 29 per cent. below the average. In Kintyre and Wigtownshire, and in the islands of Mull, Islay, Arran, and Bute, there was a heavy excess varying from 20 to 60 per cent. This excess was largely due to heavy falls on the 3rd, on which day amounts of more than 1 inch were commonly reported; at Eallabus in Islay the total for the day was 2·93 inches. But over Scotland generally there was a heavy deficiency. Thus there was a percentage deficiency of 36 at Dumfries, 37 at Leith, 16 at Greenock, 45 at Fort Augustus, 53 at Aberdeen, and 35 at Stornoway. Very little rain fell from the 7th to the 11th, and hardly any during the last four days of the month.

On the 3rd, a severe gale occurred and heavy rainfalls were recorded in the West.

On the 30th an aurora was observed at Edinburgh.

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 31st DECEMBER 1902.

By Dr **Buchan**, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 60 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N. ; MEAN LONGITUDE = 3° 45′ W. ; AND MEAN ELEVATION =279 Feet.

1902.	BAROMETER.		SELF-REGISTERING THERMOMETERS.							BLACK BULB IN SUN.		ON GRASS DURING NIGHT	
	At Sea-level and 32°.	Monthly Range.	Highest.	Lowest.	Monthly Range.	Mean of Day.	Mean of Night.	Mean Daily Range.	Mean Temp.	Highest.	Mean.	Lowest.	Mean.
	inch.	inch.	°	°	°	°	°	°	°	°	°	°	°
Oct.	29·910	1·679	63·0	21·5	41·5	53·5	40·1	13·4	46·8	115·0	77·6	12·0	35·3
Nov.	29·806	1·480	61·2	23·0	38·2	48·4	39·3	9·1	43·9	118·0	62·1	18·0	34·4
Dec.	29·884	2·126	56·5	8·6	47·9	43·6	34·8	8·8	39·2	88·3	50·4	8·0	30·8

1902.	HYGROMETER.		DEDUCTIONS.			WINDS.										RAIN.		Cloud.	Sunshine.
	Dry Bulb.	Wet Bulb.	Dew-point.	Elas. force Vap.	Hum. Sat.=100.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force	Days.	Amt. in inch.	10·0.	
	°	°	°	inch											lbs				hours
Oct.	46·4	44·3	42·0	·267	85	3	3	4	2	2	6	6	3	2	1·63	17	2·77	6·5	88
Nov.	44·1	41·9	39·3	·241	82	1	1	5	8	5	5	3	1	1	1·69	16	3·17	6·4	47
Dec.	39·3	37·4	34·9	·204	85	2	1	4	4	3	5	8	3	1	2·67	17	4·94	6·8	27

1902.	UNDERGROUND TEMPERATURE.						Well or Spring.	SEA.				Ozone.	Lightning seen or Thunder heard.		Auroras seen.	
								Firths.		Open Coast.						
	3 inches.	12 inches.	18 inches.	22 inches.	36 inches.	48 inches.		Temp	Dens.	Temp	Dens.		No. of Stations.	Mean No. of Days.	No. of Stations.	Mean No. of Days
	°	°	°	°	°	°	°	°	°	°						
Oct.	46·5	48·5	49·5	...	50·6	51·3	50·8	...	...	54·0	...	2·7	0	0	1	1
Nov.	43·3	44·4	45·7	...	47·5	48·5	49·2	...	...	46·0	...	2·9	0	0	1	1
Dec.	38·4	39·6	40·2	...	43·3	44·6	48·4	...	...	46·0	...	3·6	9	1	1	2

And when these results are compared with the averages of 1856–1900, during the same months, they show the following characteristics and differences :—

OCTOBER 1902—

Mean Barometric Pressure, 29·910 inches ; greater than the average of 1856–1900 by 0·098 inch.
Monthly Range, 1·679 inch ; greater by 0·208 inch.
Mean Temperature, 46°·8 ; greater by 0°·3.
Mean Daily Range of Temperature, 13°·4 ; greater by 1°·4.
Mean Humidity, 85 ; less by 2·3.
Mean of Black Bulb in Sun, 77°·6 ; greater by 8°·1.
Do. at Night, 35°·3 ; being the average.
Rain, Number of Days, 17 ; being the average.
Rain, Depth in Inches, 2·77 ; less by 1·27 inch.
Wind, Pressure on Square Foot, 1·63 lb. ; less by 0·32 lb.
Wind, Direction of, E. to W. as 7 to 11, and N. to S. as 6 to 6 ; in place of E. to W. as 5 to 10, and N. to S. as 5 to 7.
Hours of Sunshine, 88 ; less by 7 hours.
Mean Amount of Cloud, 6·5 ; being the average.

NOVEMBER 1902—

Mean Barometric Pressure, 29·806 inches ; less than the average of 1856–1900 by 0·024 inch.

Monthly Range, 1·480 inch ; less by 0·064 inch.

Mean Temperature, 43°·9 ; greater by 3°·0.

Mean Daily Range of Temperature 9°·1 ; less by 1°·3.

Mean Humidity, 82 ; less by 6·0.

Mean of Black Bulb in Sun, 62°·1 ; greater by 5°·8.

Do. at Night, 34°·4 ; greater by 3°·3.

Rain, Number of Days, 16 ; being the average.

Rain, Depth in Inches, 3·17 ; less 0·67 inch.

Wind, Pressure on Square Foot, 1·69 lb. ; less by 0·21 lb.

Wind, Direction of, E. to W. as 10 to 6, and N. to S. as 2 to 12 ; instead of E. to W. as 5 to 10, and N. to S. as 6 to 7.

Hours of Sunshine, 47 ; less by 9 hours.

Mean Amount of Cloud, 6·4 ; being the average.

DECEMBER 1902—

Mean Barometric Pressure, 29·884 inches ; greater than the average of 1856–1900 by 0·102 inch.

Monthly Range, 2·126 inches ; greater by 0·540 inch.

Mean Temperature, 39°·2 ; greater by 1°·2.

Mean Daily Range of Temperature, 8°·8 ; less by 0°·8.

Mean Humidity, 85 ; less by 2·8.

Mean of Black Bulb in Sun, 50°·4 ; greater by 2°·4.

Do. at Night, 30°·8 ; greater by 2°·2.

Rain, Number of Days, 17 ; being the average.

Rain, Depth in Inches, 4·94 ; greater by 0·78 inch.

Wind, Pressure on Square Foot, 2·67 lbs. ; greater by 0·64 lb.

Wind, Direction of, E. to W. as 7 to 12, and N. to S. as 4 to 8 ; in place of E. to W. as 5 to 11, and N. to S. as 5 to 8.

Hours of Sunshine, 27 ; less by 18 hours.

Mean Amount of Cloud, 6·8 ; greater by 0·3

OCTOBER 1902—

Hence the month of OCTOBER 1902 was characterized by a mean barometric pressure considerably above the average, with a high monthly range ; a mean temperature slightly above the average, with a fairly high mean daily range ; a mean humidity somewhat below the average ; a mean rainfall greatly below the average, but falling on the average number of days ; a two days' excess of moderate winds from the N.E.

The mean barometric pressure was 29·910 inches, or 0·098 inch above the average. Pressure was very high from the 1st to the 6th and from the 22nd to the 25th. On the 15th a deep depression passed eastwards across the country and on the evening of that day the barometer at sea-level fell considerably below 29 inches. The extremes at Leith were 30·453 inches on the 25th and 28·698 inches on the 15th.

The mean temperature of the month was 46°·8, or 0°·3 above the average. The days were 1°·0 above, and the nights 0°·4 below their respective averages. In the North-East of the country there was a slight but well marked deficiency of temperature, amounting at Aberdeen to 1°·8. Temperature along the Caledonian Canal was also below the normal, at Fort Augustus by 1°·0 and at Fort William by 0°·7. Over the rest of the country the month was warmer than the average but nowhere by much more than a degree, the maximum excess being 1°·7 at Leith. The mean temperature of the country south of the Forth and Clyde was about 1°·0 above the average. The first four days of the month were very cold, and temperature continued low until the 12th. From the 17th to the 20th there was another cold spell, but thereafter temperature continued fairly high. The absolutely highest temperature was 63°·0 at Crathes on the 31st, and the lowest 21°·5 at Kingussie on the 10th.

The mean rainfall was 2·77 inches, or 31 per cent. below the average. The deficiency in the Lothians was about 50 per cent., in the Border counties 40, in Dumfriesshire and Galloway about 30, whilst in the extreme South-West it again increased to 50 per cent. Along the east coast the mean deficiency was about 40 per cent. Towards the North-West of the country there was an excess of rainfall, amounting to 19 per cent. at Fort William and Invergarry, 11 at Glencarron, and 22 at Stornoway On the west coast the first 11 days of the month were practically rainless. The 14th and 15th were everywhere very wet and in the West the 13th and 16th also, and some heavy daily amounts were reported betweeen the 21st and 25th. Thus on the 15th 1·63 inch fell at Stornoway, 2·66 at Glencarron and 1·32 at Fort William ; whilst at Stornoway 3·67 inches or more than half the total amount for the month fell between the 13th and 16th.

From the 14th to 16th a south-westerly gale prevailed, accompanied by a very heavy rainfall.

An Aurora was observed at Edinburgh on the 4th and at Stourhead on the 24th.

NOVEMBER 1902—

Hence the month of NOVEMBER 1902 was characterized by a slightly low mean barometric pressure, with a monthly range a little below the average ; a high mean temperature, with a low mean daily range ; a low mean rainfall, but falling on the average number of days ; a very low mean humidity associated with an 8 days' excess of moderate winds from E. and S.E.

The mean barometric pressure was 29·806 inches, or 0·024 inch below the average. A very steep gradient was formed from East to West, accounting for the remarkable excess of dry easterly winds. Thus the reduced mean barometric pressure at Montrose was 29·844 inches, whilst at Fort William it was 0·086 inch less. From the 14th to 20th pressure was very high; but otherwise it was somewhat irregular, the deepest depression of the month passing north-westwards on the 9th. The extremes at sea-level were at Leith 30·509 inches on the 18th, and 29·028 inches on the 9th.

The mean temperature of the month was 43°·9, or 3°·0 above the normal, the days being 2°·3 and the nights 3°·6 above their respective averages. The month was thus on the average a very mild one, the only cold weather occurring between the 17th and 23rd, under the influence of a large anticyclone that then covered nearly all Europe. The cold wave was hardly felt except in the South of Scotland, and even there temperature was high compared with that experienced in the South of England at the same time. Thus on the 19th the mean temperature of Leith was 42°·5 whilst that of London was 33°·5. At many places the mean temperature of the month was fully 4°·0 above the normal, but the difference decreased to about 2°·0 in the South-West. At Fort William the minimum for the month was 33°·2, at Leith frost was registered only on the 22nd, whilst at Dumfries the minimum was 25°·0 on the 22nd, and the sheltered thermometer fell below the freezing-point on 4 days. The absolutely highest temperature was 61°·2 at Glencarron on the 8th, and the lowest 23·0 at Drumlanrig on the 22nd.

The mean rainfall was 3·17 inches, or 18 per cent. below the average. In Wigtownshire and Galloway there was an excess of about 30 per cent., and in Forfarshire and Eastern Perthshire there was also an excess, amounting at Lednathie to as much as 87 per cent. Elsewhere there was a deficiency, which was least—from 10 to 20 per cent.—in Dumfriesshire and Aberdeenshire, and greatest—about 70 per cent.—in the Lothians and in the counties of Moray, Nairn and Inverness. From the 15th to the 21st practically no rain fell. On the 28th some very heavy falls were recorded, 1·96 inches at Lednathie and 1·02 inches at Ochtertyre, and on the 29th the (Forfarshire) South Esk was heavily flooded. The small amounts of 0·62 inch at Inverness, 0·60 at Edinburgh and 0·75 at Leith are noteworthy.

The weather was stormy in the East and North on the 1st, from the 4th to the 8th, and on the 28th and 29th. In the West there was a southerly gale on the 13th, and in the South-West, after the 7th, much stormy weather, chiefly from the South-East.

An Aurora was observed at Deerness on the 22nd.

DECEMBER 1902—

Hence the month of DECEMBER 1902 was characterized by a mean barometric pressure considerably above the average, with an unusually high monthly range; a mean temperature somewhat above the normal, with a mean daily range a little below the average; a mean rainfall considerably above the average, but falling on the average number of days; a low mean humidity; very strong winds, winds from a northerly quarter being decidedly deficient.

The mean barometric pressure was 29·884 inches, or 0·102 inch above the average; the monthly range being more than half an inch above the average. Pressure was very high from the 3rd to the 11th, and high from the 19th to the 24th, whilst from the 28th to the 30th it was very low indeed. The extremes at Leith were 30·665 inches on the 4th, and 28·425 inches on the 29th.

The mean temperature of the month was 39°·2, or 1°·2 above the normal, the days being 0°·8 and the nights 1°·6 above the average. The excess was greater in the East than in the West of the country. At a few places in the south-eastern counties temperature was quite 2° above the average, and the excess was very decided northwards as far as Aberdeen and as far west as Paisley. Along the Caledonian Canal and in Wigtownshire temperature was slightly below the average, whilst for the remainder of the West of Scotland the excess averaged about 0°·5. The first two days of the month were very mild; but a cold spell lasting for ten days then set in with a little snow on the 3rd, 4th and 5th, and very low temperatures on the 7th and 8th. The remainder of the month was unusually mild except for frost on the 31st. Heavy snow fell on the 28th. The absolutely highest temperature recorded was 56°·5 at Smeaton on the 17th, and the lowest 8°·6 at Lednathie on the 7th.

The mean rainfall was 4·94 inches, or 19 per cent. above the average. In the Lothians, along the east coast from Isle of May to Aberdeen, in Argyllshire, Mull and Islay, and in the extreme South-West rainfall was below the average by varying but moderate amounts. From the Tay to the Moray Firth the excess ranged from 40 to 90 per cent., and in the Border counties averaged about 10 per cent. Very heavy falls were reported on the 1st, 2nd, 14th and 15th of the month. Thus at Lednathie the individual amounts for these days were 2·58, 1·88, 1·51 and 0·68 inches. At Stronvar the combined amount for the 14th and 15th was 3·55 inches, at Paisley 2·92 inches for the same two days, and at Drumlanrig 2·81 inches. In the North no such heavy daily amounts were recorded. The monthly totals for Perth and Lednathie were all twice the average.

The weather was stormy on the 1st and 2nd, on the 14th and 15th, on the 17th and 18th, on the 25th and on the 28th. On the 28th, a westerly gale was accompanied by a snow-storm, with thunder and lightning at many places.

Aurora observed from Ben Nevis on the 22nd and 23rd.

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	Oct.	29·565	29·820	1·640	...	...	...	...	...	...	...
		Nov.	29·593	29·846	1·594	...	...	...	...	...	...	...
		Dec.	29·506	29·761	2·264	...	...	...	...	...	...	...
LERWICK, (Shetland.) G. Allison, Harbour Master.	30	Oct.	29·795	29·817	1·782	59·0	35·0	24·0	54·0	42·7	11·3	48·4
		Nov.	29·789	29·811	1·590	53·0	34·0	19·0	48·2	42·6	5·6	45·6
		Dec.	29·753	29·776	2·300	50·0	31·0	19·0	45·7	37·0	8·7	41·3
DEERNESS, (Orkney.) M. Spence, Schoolhouse.	172	Oct.	29·674	29·861	1·859	54·8	37·0	17·8	51·1	42·9	8·2	47·0
		Nov.	29·604	29·793	1·560	54·8	38·8	16·0	48·5	43·4	5·1	46·0
		Dec.	29·599	29·788	2·302	49·0	32·0	17·0	44·1	37·2	6·9	40·4
KIRKWALL, (Orkney.) James Begg, S.S.C.	30	Oct.	29·828	29·861	1·810	55·0	30·0	25·0	52·9	42·5	10·4	47·7
		Nov.	29·771	29·804	1·610	54·0	36·0	18·0	48·7	43·7	5·0	46·2
		Dec.	29·759	29·791	2·126	50·0	28·5	21·5	43·4	37·6	5·8	40·5
DUNROBIN, (Sutherland.) D. Melville, Gardener, Dunrobin Castle.	16	Oct.	29·851	29·868	1·850	59·2	32·0	27·2	53·1	40·7	12·4	46·9
		Nov.	29·762	29·778	1·578	58·0	33·0	25·0	49·5	41·9	7·6	45·7
		Dec.	...	...	...	...	...	...	...	...	...	...
LAIRG, (Sutherland.) Rev. John K. Maclean.	390	Oct.	29·420	29·857	1·730	...	26·0	...	...	37·5	...	...
		Nov.	29·326	29·767	1·550	...	30·0	...	...	38·0	...	...
		Dec.	29·368	29·812	2·320	49·0	19·0	30·0	40·7	32·2	8·5	36·5
GLENCARRON, (Ross.) D. D. Munro.	504	Oct.	29·323	29·880	1·648	58·0	30·4	27·6	52·0	39·5	12·5	45·7
		Nov.	29·200	29·734	1·430	61·2	32·0	29·2	50·1	39·4	10·7	44·8
		Dec.	29·280	29·838	2·116	52·2	20·6	31·6	42·9	32·9	10·0	37·9
STORNOWAY, (Ross Isle of Lewis.) Principal Keeper of the Lighthouse.	56	Oct.	29·781	29·843	1·730	59·3	32·4	26·9	55·5	40·8	14·7	48·2
		Nov.	29·643	29·705	1·550	58·3	30·4	27·9	51·8	41·2	10·6	46·5
		Dec.	29·712	29·775	2·090	52·3	25·0	27·3	46·9	36·5	10·4	41·7
MONACH, (Hebrides.) James Black, Principal Keeper of the Lighthouse.	150	Oct.	29·710	29·875	1·520	...	...	...	...	...	...	...
		Nov.	29·506	29·671	1·490	...	...	...	...	...	...	...
		Dec.	29·633	29·800	2·020	...	...	...	...	...	...	...
KINGUSSIE, (Inverness.) Walter de Watteville, M.D. and J. Campbell.	828	Oct.	28·993	29·899	1·700	62·0	21·5	40·5	53·2	35·0	18·2	44·1
		Nov.	28·892	29·793	1·486	55·0	26·0	29·0	47·9	37·8	10·1	42·8
		Dec.	23·947	29·864	2·094	51·0	13·8	37·2	41·4	30·3	11·1	35·8
INVERNESS, (Inverness.) Thos. Wallace, High School.	114	Oct.	29·759	29·886	1·778	60·6	31·4	29·2	53·2	41·1	12·1	47·1
		Nov.	29·648	29·773	1·460	59·2	25·8	33·4	49·8	39·4	10·4	44·6
		Dec.	29·711	29·839	2·272	53·2	20·2	33·0	43·3	33·7	9·6	38·5
FORT AUGUSTUS, (Inverness.) Rev. Cyril von Dieckhoff, St Benedict's Priory.	73	Oct.	29·817	29·898	1·784	58·7	26·9	31·8	53·1	38·6	14·5	45·8
		Nov.	29·676	29·757	1·578	59·3	29·6	29·7	50·6	40·1	10·5	45·6
		Dec.	29·773	29·856	2·204	51·4	18·4	33·0	43·4	34·1	9·3	38·7
FORT WILLIAM, (Inverness.) R. T. Omond, F.R.S.E., and Angus Rankin.	42	Oct.	29·864	29·910	1·728	59·8	29·2	30·6	54·0	39·8	14·2	46·9
		Nov.	29·711	29·758	1·499	61·0	33·2	27·8	51·3	41·2	10·1	46·2
		Dec.	29·834	29·881	2·111	52·1	21·3	30·8	44·8	35·9	8·9	40·4
GORDON CASTLE, (Banff.) C. Webster, Gardener to the Duke of Richmond and Gordon.	107	Oct.	29·757	29·876	1·738	61·3	31·2	30·1	54·9	39·4	15·5	47·1
		Nov.	29·689	29·807	1·526	59·5	26·0	33·5	50·2	39·9	10·3	45·1
		Dec.	29·722	29·842	2·258	54·3	21·0	33·3	44·1	34·2	9·9	39·2

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
°	°	°	°	°	°	°	inch.											lbs.	days	inch
...	...	...	...	46·4	...	...	...	...	4	2	2	1	7	6	5	4	0	4·58	12	...
...	...	...	...	45·3	...	...	...	...	1	0	0	8	12	5	2	2	0	3·07	15	...
...	...	...	...	40·6	...	...	...	...	2	1	3	4	6	6	5	4	0	8·17	21	...
...	...	...	...	47·7	45·2	42·4	·272	82	1	3	2	1	9	2	5	4	4	1·74	21	2·99
...	...	...	...	45·7	43·2	40·3	·251	82	0	0	0	8	16	6	1	3	1	2·56	14	2·11
...	...	...	...	42·2	39·7	36·6	·218	81	0	1	3	2	11	6	4	4	0	2·62	20	5·28
...	..	...	...	47·3	45·3	43·2	·280	87	3	1	2	2	7	8	3	5	0	1·21	19	2·74
...	...	...	...	46·2	43·8	41·1	·259	84	0	0	1	16	7	3	3	0	0	6·30	10	1·54
...	...	...	...	40·8	38·8	36·2	·214	84	1	2	1	8	6	6	5	2	0	5·76	17	3·79
...	...	...	...	47·5	45·2	42·6	·274	83	1	1	3	2	6	2	6	5	5	1·23	16	3·11
...	..	...	...	45·9	43·4	39·7	·254	83	0	0	4	8	10	1	4	1	2	2·25	16	1·98
...	...	...	...	41·4	39·0	36·0	·212	82	1	0	6	4	8	4	6	1	1	4·88	17	4·48
...	..	...	...	47·3	44·9	42·3	·270	83	2	3	3	7	1	7	4	4	0	...	18	1·64
...	...	...	...	45·9	43·1	39·9	·247	81	3	0	3	9	6	4	4	1	0	...	12	1·10
...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	14	3·64
...	...	...	...	...	...	...	...	...	3	1	1	3	1	3	2	5	12	0·78	18	2·29
...	...	...	...	42·0	39·9	37·3	·223	84	1	0	7	15	1	1	1	2	2	1·00	15	2·61
...	...	...	...	35·6	34·5	32·9	·189	90	1	0	1	8	1	1	5	7	7	1·50	19	5·94
...	...	...	...	45·9	43·9	41·6	·265	86	6	0	10	0	0	0	15	0	0	2·85	20	10·34
...	...	...	...	44·4	41·5	38·2	·230	79	9	1	8	0	1	1	8	0	2	2·99	16	3·40
...	...	...	...	38·3	36·4	33·8	·192	84	8	0	5	0	0	0	17	0	1	4·66	22	12·43
...	...	...	...	47·9	45·9	43·7	·285	84	1	2	2	3	3	6	7	3	4	1·54	28	6·47
...	..	...	...	46·5	44·4	42·0	·268	85	0	0	1	10	5	5	5	2	2	2·86	23	3·82
...	...	...	...	41·5	39·8	37·7	·227	87	2	2	2	2	3	7	7	4	2	3·84	22	5·90
...	..	...	...	51·2	...	...	...	...	3	0	4	4	5	6	7	2	0	4·71	14	3·19
...	..	...	..	47·8	...	...	...	...	1	1	3	10	7	4	2	2	0	6·30	18	4·38
...	..	...	...	48·5	...	...	...	...	1	1	1	9	4	3	11	1	0	4·50	16	3·03
...	...	...	...	43·0	41·1	38·8	·236	85	6	1	1	1	2	11	4	5	0	...	18	2·36
...	...	...	...	42·8	40·2	37·1	·221	80	1	0	3	4	9	11	1	1	0	...	12	0·95
...	...	...	...	36·2	34·7	32·5	·186	87	...	...	...	...	...	...	...	...	...	...	15	4·25
94·0	75·5	26·0	35·0	46·8	45·0	47·0	·277	87	0	2	3	1	0	9	9	2	5	2·22	13	1·77
79·0	60·9	19·2	31·7	44·1	41·6	38·7	·235	80	0	3	2	1	3	13	3	2	3	1·12	6	0·62
64·0	47·5	15·0	27·1	39·0	37·3	35·1	·205	86	1	2	0	2	1	12	10	2	1	2·57	15	3·65
...	...	...	...	45·4	43·8	42·0	·267	89	1	3	1	0	4	6	0	1	15	0·77	20	3·58
...	...	...	...	45·4	42·4	39·0	·238	79	2	3	0	3	7	4	1	2	8	1·44	14	1·45
...	...	..	...	39·1	36·9	34·1	·196	82	4	2	1	1	6	12	0	0	5	2·64	17	6·93
105·1	82·7	21·3	35·5	46·0	44·0	41·7	·265	86	5	0	1	3	3	6	2	2	9	0·23	20	8·72
73·5	62·8	24·8	37·1	46·4	43·0	39·2	·240	77	2	0	6	8	4	3	1	0	6	0·31	20	3·40
65·0	50·3	11·6	31·8	40·5	38·1	35·0	·204	81	1	2	2	4	5	8	4	0	5	0·50	21	8·57
...	...	...	...	47·3	44·6	41·6	·263	81	0	4	0	1	1	19	2	4	0	...	19	2·28
...	...	...	...	44·8	41·8	38·8	·232	79	0	0	1	17	5	5	1	1	0	...	15	0·84
...	...	...	...	39·5	36·8	33·8	·190	79	0	3	1	7	2	13	2	3	0	...	16	3·70

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
BRAEMAR, (Aberdeen.) James Aitken, Banker.	1114	Oct.	28·689	29·908	1·654	56·0	21·8	34·2	49·6	36·0	13·6	42·8
		Nov.	28·603	29·816	1·564	55·3	25·8	29·5	45·9	36·5	9·4	41·2
		Dec.	28·639	29·867	2·110	50·2	14·0	36·2	39·7	30·7	9·0	35·2
LOANHEAD, (Aberdeen.) Alex. Farquharson.	747	Oct.	29·077	29·897	1·711	60·9	25·0	35·9	51·8	37·4	14·4	44·6
		Nov.	29·007	29·822	1·530	56·2	28·0	28·2	47·5	38·3	9·2	42·9
		Dec.	29·042	29·871	2·216	53·0	20·2	32·8	40·8	32·0	8·8	36·4
TILLYPRONIE, (Aberdeen.) Robert Littlejohn, Gardener to Sir John F. Clark, Bart.	1120	Oct.	28·666	29·890	1·680	59·5	29·8	29·7	50·6	36·9	13·7	43·7
		Nov.	28·606	29·823	1·540	56·5	30·0	26·5	46·8	36·7	10·1	41·7
		Dec.	28·622	29·857	2·134	53·5	20·3	33·2	40·6	31·6	9·0	36·1
ABERDEEN, (Aberdeen.) Peter Harper, Superintendent, Duthie Park.	44	Oct.	29·842	29·891	1·775	61·0	28·0	33·0	53·2	38·8	14·4	46·0
		Nov.	29·793	29·823	1·555	54·6	28·2	26·4	49·2	41·0	8·2	45·1
		Dec.	29·817	29·867	2·215	55·0	25·0	30·0	44·0	35·1	8·9	39·6
HADDO HOUSE, (Aberdeen.) John Forrest, Gardener to the Earl of Aberdeen.	194	Oct.	29·675	29·875	1·696	59·0	28·0	31·0	52·9	38·0	14·9	45·5
		Nov.	29·624	29·822	1·504	56·0	25·0	31·0	48·1	39·2	8·9	43·7
		Dec.	29·652	29·854	2·218	52·0	23·0	29·0	42·0	33·8	8·2	37·9
PETERHEAD, (Aberdeen.) Dr W. H. M'Walter, H.M. Prison.	100	Oct.	29·768	29·878	1·734	59·0	34·0	25·0	53·2	42·1	11·1	47·6
		Nov.	29·717	29·829	1·564	62·0	34·0	28·0	50·6	42·5	8·1	46·5
		Dec.	29·743	29·855	2·260	52·2	29·0	23·2	45·8	35·4	10·4	40·4
CRATHES, (Kincardine.) J. Smith.	145	Oct.	29·739	29·901	1·782	63·0	25·0	38·0	53·7	37·4	16·3	45·6
		Nov.	29·683	29·844	1·548	58·0	25·5	32·5	48·8	38·7	10·1	43·7
		Dec.	29·714	29·877	2·286	56·0	21·0	35·0	43·1	33·9	9·2	38·5
MONTROSE (Royal Asylum), (Forfar.) Dr John G. Havelock.	200	Oct.	29·692	29·913	1·702	57·7	29·3	28·4	52·3	40·3	12·0	46·3
		Nov.	29·624	29·844	1·462	55·6	29·3	26·3	47·2	41·1	6·1	44·2
		Dec.	29·657	29·879	2·114	52·6	20·3	32·3	43·0	35·4	7·6	39·2
ARBROATH, (Forfar.) James Campbell, "For the Natural History Assoc. of Arbroath."	68	Oct.	29·841	29·916	1·678	58·0	31·0	27·0	53·9	41·1	12·8	47·5
		Nov.	29·776	29·850	1·510	56·0	32·0	24·0	49·2	41·7	7·5	45·4
		Dec.	29·811	29·887	2·200	55·5	23·0	32·5	44·8	35·1	9·7	40·0
DUNDEE, (Forfar) (Eastern Necropolis), John Carnochan, Curator.	164	Oct.	29·738	29·920	1·740	57·6	30·1	27·5	52·9	40·3	12·6	46·6
		Nov.	29·657	29·840	1·350	56·4	30·8	25·6	48·3	40·0	8·3	44·1
		Dec.	29·715	29·899	2·180	53·2	20·1	33·1	43·3	35·3	8·0	39·3
DUNDEE (Harbour), (Forfar.) J. Thomson, Jr., A.M.I.C.E., The Harbour Trust.	20	Oct.	29·896	29·914	1·794	58·8	36·2	22·6	53·9	43·1	10·8	48·5
		Nov.	29·821	29·839	1·522	57·0	33·5	23·5	49·2	41·7	7·5	45·4
		Dec.	29·881	29·900	2·210	54·0	23·2	30·8	45·2	35·7	9·5	40·4
LEDNATHIE, (Forfar.) William Morrison, Gardener to Patrick Stormonth Darling.	720	Oct.	29·114	29·906	1·720	58·2	25·2	33·0	52·4	35·9	16·5	44·1
		Nov.	29·038	29·833	1·500	54·8	26·0	28·8	46·9	36·5	10·4	41·7
		Dec.	29·077	29·876	2·170	54·5	8·6	45·9	40·9	31·3	39·6	36·1
BALRUDDERY, (Forfar.) R. Cairns, Gardener to J. Martin White.	280	Oct.	29·634	29·918	1·744	58·0	31·0	27·0	53·8	39·3	14·5	46·5
		Nov.	29·535	29·842	1·536	58·0	30·0	28·0	48·5	38·5	10·0	43·5
		Dec.	29·582	29·895	2·098	53·0	20·0	33·0	42·4	34·9	7·5	38·6
PERTH, (Perth.) John Leslie, Gardener to Henry Coats.	105	Oct.	29·802	29·919	1·682	59·5	26·5	33·0	53·6	38·0	15·6	45·8
		Nov.	29·718	29·835	1·490	58·5	26·0	32·5	49·1	38·1	11·0	43·6
		Dec.	29·777	29·895	2·169	54·0	16·0	38·0	44·1	33·5	10·6	38·8
STRONVAR, (Perth.) James Dickson, Gardener to James Carnegie.	422	Oct.	29·451	29·919	1·750	61·0	25·0	36·0	53·3	37·2	16·1	45·2
		Nov.	29·340	29·805	1·430	54·0	27·0	27·0	47·7	37·4	10·3	42·5
		Dec.	29·433	29·902	2·000	54·5	13·5	41·0	43·0	32·2	9·8	37·6

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
°	°	°	°	°	°	°	inch.											lbs.	days	inch.
111·1	88·8	12·0	32·0	41·7	40·0	37·9	·228	87	2	8	2	2	0	13	1	3	0	0·38	19	3·18
91·3	61·3	19·8	31·5	41·0	38·8	36·0	·211	83	1	1	1	9	3	13	0	2	0	0·37	10	3·15
70·2	52·2	8·0	27·7	35·4	33·9	31·7	·179	87	2	5	0	1	1	18	1	3	0	0·70	19	5·30
...	...	...	...	45·4	43·8	42·0	·267	89	1	2	0	1	1	3	3	4	16	0·10	19	1·41
...	...	...	...	42·8	41·5	39·9	·247	90	0	2	0	17	0	5	0	1	5	0·24	17	3·25
...	...	...	...	37·3	36·0	34·2	·197	89	1	1	0	7	1	4	4	7	6	0·33	20	4·10
97·0	85·6	28·0	35·5	42·8	41·4	40·9	·245	89	5	8	0	1	1	4	2	10	0	1·63	24	1·83
84·3	62·3	...	...	40·9	39·4	37·8	·224	89	0	1	2	13	1	8	1	4	0	2·47	16	3·80
69·0	49·0	16·0	29·3	35·6	34·1	31·9	·181	86	1	0	0	11	0	9	0	10	0	3·61	21	2·93
...	...	...	...	45·6	43·7	41·5	·268	86	3	2	2	3	5	6	3	6	1	2·20	20	1·66
...	..	.	...	45·7	43·8	41·3	·261	85	0	1	0	9	11	8	1	0	0	2·40	14	2·56
...	...	..	...	39·6	38·0	35·9	·211	87	1	3	0	6	5	6	9	1	0	2·50	17	2·76
...	...	21·0	32·7	44·5	42·9	41·0	·257	88	1	2	1	3	4	6	3	11	0	...	18	1·95
...	...	19·0	28·7	43·3	41·6	39·6	·244	87	0	0	0	14	8	4	2	2	0	...	18	2·84
...	...	19·0	28·7	37·4	36·0	34·1	·196	88	0	3	1	7	4	5	5	6	0	...	19	3·63
...	...	...	...	48·1	45·8	43·3	·280	84	3	2	2	3	5	6	3	6	1	3·34	...	1·25
...	...	...	...	46·8	44·1	41·0	·257	81	0	0	2	9	10	7	1	1	0	2·07	...	1·27
...	...	...	...	41·2	39·5	37·4	·223	87	1	1	3	4	11	4	0	6	1	3·25	...	2·50
...	...	15·4	28·3	44·8	43·0	40·9	·255	86	3	3	3	2	8	3	5	2	2	1·32	20	2·05
...	...	18·5	30·6	43·7	41·7	39·3	·242	85	0	0	1	13	5	5	2	1	3	1·79	17	5·47
...	...	14·0	28·2	38·4	36·5	34·0	·193	85	2	0	0	7	2	9	6	1	4	1·21	21	4·18
...	...	...	...	45·4	43·7	41·8	·264	88	6	1	4	0	4	2	8	6	0	3·06	15	1·60
...	...	...	...	44·2	42·4	40·3	·250	86	1	3	6	5	7	2	5	1	0	3·35	13	3·27
...	...	...	...	38·6	37·2	35·4	·207	89	3	1	5	3	2	7	7	3	0	3·61	16	2·78
87·0	63·0	28·0	37·5	47·0	44·8	42·4	·271	85	4	2	2	2	1	7	8	5	0	1·25	20	1·35
67·0	53·2	28·0	39·0	45·9	44·0	41·8	·266	87	1	0	5	13	2	8	5	1	0	2·82	14	1·45
66·0	46·6	19·0	33·0	40·5	38·4	35·7	·210	83	3	1	4	5	1	8	8	1	0	3·45	17	1·88
...	...	...	...	46·1	44·3	42·3	·271	87	0	7	0	4	0	10	3	7	0	1·72	20	1·49
...	...	...	...	43·9	42·4	40·6	·254	88	1	1	2	15	1	4	3	3	0	0·94	16	2·92
.	...	...	...	39·5	37·8	35·5	·209	86	1	2	1	7	0	8	8	4	0	4·00	18	3·05
...	...	...	...	48·2	48·7	43·0	·276	83	1	1	7	0	0	1	4	14	3	2·31	24	1·18
...	...	...	...	45·5	43·5	41·2	·259	86	0	0	11	5	5	3	6	0	0	2·20	19	2·71
...	...	...	...	41·1	38·8	36·2	·210	82	1	2	5	3	2	4	12	2	0	1·80	22	3·74
...	...	...	...	43·5	41·5	38·7	·235	82	5	4	2	2	0	4	5	8	1	1·88	22	2·24
...	...	...	...	41·7	40·2	38·6	·232	89	2	1	2	9	5	5	3	3	0	1·98	20	3·90
...	...	...	...	36·7	35·2	33·1	·179	87	1	4	1	5	0	5	8	5	2	3·49	19	3·34
...	...	...	...	45·8	44·1	42·1	·269	88	5	2	2	3	1	6	7	4	1	3·06	19	1·82
...	...	...	...	43·2	41·7	39·9	·247	89	2	0	3	9	4	7	4	1	0	2·72	14	3·09
...	...	...	...	38·5	36·7	34·6	·198	86	3	1	3	3	4	4	10	3	0	2·07	17	4·44
...	...	...	...	44·6	42·8	40·8	·255	87	1	3	5	1	1	2	10	1	7	0·32	...	1·53
..	...	...	...	43·0	41·8	40·4	·251	90	1	0	6	12	4	1	3	0	3	0·31	...	3·02
..	...	...	...	38·6	37·2	35·4	·207	89	1	0	6	5	2	1	13	1	2	1·88	...	6·10
...	...	...	...	44·2	42·2	39·8	·246	85	4	1	7	1	1	4	9	4	0	2·59	20	5·41
...	...	...	...	41·5	40·1	38·3	·232	89	...	...	...	..	...	...	...	...	...	...	23	7·12
...	...	...	...	38·0	36·0	33·3	·190	83	...	...	...	...	...	...	...	...	...	...	21	9·37

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
OCHTERTYRE, (Perth.) George Croucher, Gardener to Sir Patrick Keith Murray, Bart.	333	Oct.	29·553	29·913	1·816	61·0	29·0	32·0	54·9	38·8	16·1	46·9
		Nov.	29·441	29·807	1·528	58·0	25·0	33·0	48·9	38·3	10·6	43·6
		Dec.	29·526	29·900	2·170	53·0	16·0	37·0	43·5	34·1	9·4	38·8
CUPAR, (Fife.) Dr Turnbull, Fife and Kinross District Asylum.	210	Oct.	29·693	29·926	1·718	59·0	30·0	29·0	55·0	40·1	14·9	47·6
		Nov.	29·602	29·834	1·490	59·0	30·0	29·0	50·6	39·3	11·3	45·0
		Dec.	29·669	29·902	2·068	56·0	16·0	40·0	44·3	33·8	10·5	39·1
BUCHLYVIE, (Stirling.) Rev. John A. Macdonald.	125	Oct.	29·781	29·920	1·710	58·0	27·0	31·0	54·1	38·6	15·5	46·3
		Nov.	29·666	29·804	1·420	59·0	26·0	33·0	48·9	37·4	11·5	43·2
		Dec.	29·765	29·904	2·130	53·5	15·0	38·5	44·1	34·2	9·9	39·1
HELENSBURGH, (Dumbarton.) J. R. Wilson, Waterworks.	18	Oct.	...	...	...	60·0	35·3	24·7	55·6	41·7	13·9	48·7
		Nov.	...	...	...	...	...	...	...	...	...	...
		Dec.	...	...	...	53·0	22·0	31·0	44·0	36·4	7·6	40·2
DUMBARTON, (Dumbarton.) William Denny and Brothers.	27	Oct.	29·894	29·924	1·720	57·8	33·0	24·8	55·2	41·4	13·8	48·3
		Nov.	29·759	29·789	1·414	56·4	31·1	25·3	50·0	40·5	9·5	45·3
		Dec.	29·888	29·918	2·080	53·2	17·7	35·5	44·8	36·5	8·3	40·7
LOCHBUIE, (Argyll.) George Carson, Gardener to the Maclaine of Lochbuie.	20	Oct.	29·900	29·922	1·746	62·4	35·0	27·4	55·4	42·4	13·0	48·9
		Nov.	29·720	29·743	1·411	55·8	35·0	20·8	51·0	42·8	8·2	46·9
		Dec.	29·840	29·862	2·009	52·9	29·3	23·6	46·2	37·5	8·7	41·8
AIRDS, (Argyll.) Colonel Macfie, C.B., and Alexander M'Lachlan.	15	Oct.	29·898	29·913	1·685	62·0	36·0	26·0	55·0	42·7	12·3	48·8
		Nov.	29·734	29·750	1·390	57·0	37·0	20·0	51·1	41·4	9·7	46·3
		Dec.	29·870	29·886	2·055	55·0	26·0	29·0	46·8	37·6	9·2	42·2
POLTALLOCH, (Lochgilphead, Argyll.) D. S. Melville, Gardener.	185	Oct.	29·772	29·921	1·580	65·0	31·0	34·0	56·8	40·6	16·2	48·7
		Nov.	29·615	29·764	1·450	58·0	34·0	24·0	50·7	41·8	8·9	46·3
		Dec.	29·741	29·890	1·960	54·0	23·0	31·0	46·5	37·1	9·4	41·8
ROTHESAY, (Isle of Bute.) James Kay, Barone Cottage.	116	Oct.	29·802	29·930	1·636	62·2	34·0	28·2	56·2	41·6	14·6	48·9
		Nov.	29·653	29·780	1·476	55·5	32·3	23·2	49·3	40·7	8·6	45·0
		Dec.	29·787	29·915	1·980	53·5	27·0	26·5	44·6	37·1	7·3	40·7
GREENOCK, (Renfrew.) Daniel Macalister, C.E., Waterworks.	238	Oct.	29·672	29·925	1·674	59·2	36·2	23·0	53·9	42·4	11·5	48·2
		Nov.	29·534	29·784	1·420	58·2	30·0	28·2	49·6	40·2	9·4	44·9
		Dec.	29·651	29·906	2·037	54·7	21·0	33·7	44·0	35·5	8·5	39·8
PAISLEY, (Renfrew.) Donald Maclean, The Coats Observatory.	107	Oct.	29·808	29·927	1·707	58·7	33·1	25·6	55·0	42·4	12·6	48·7
		Nov.	29·674	29·792	1·454	59·5	29·8	29·7	49·5	40·5	9·0	45·0
		Dec.	29·793	29·913	2·103	54·0	18·8	35·2	44·3	36·5	7·8	40·4
PINMORE, Ayr.) Robert Torrance, Gardener to Hugh Hamilton of Pinmore.	190	Oct.	29·734	29·944	1·488	62·0	28·5	33·5	55·6	39·3	16·3	47·4
		Nov.	29·577	29·787	1·408	57·0	29·0	28·0	49·5	37·3	12·2	43·4
		Dec.	29·718	29·930	1·940	53·0	19·0	34·0	44·7	35·6	9·1	40·1
BOWHILL, (Ayr.) Alexander Gillespie, C.E.	978	Oct.	28·874	29·946	1·590	57·0	31·0	26·0	51·7	37·2	14·5	44·4
		Nov.	28·719	29·785	1·400	57·0	27·0	30·0	47·7	34·9	12·8	41·3
		Dec.	28·867	29·931	1·960	51·0	14·0	37·0	39·9	32·1	7·8	36·0
GLASGOW (Belvidere Hosp.), (Lanark.) John Brownlee, M.D.	54	Oct.	29·868	29·928	1·636	59·8	30·2	29·6	55·2	41·2	14·0	48·2
		Nov.	29·737	29·797	1·450	59·8	30·2	29·6	51·8	40·5	11·3	46·2
		Dec.	29·852	29·913	2·110	55·0	17·9	37·6	46·1	34·9	11·2	40·5
GLASGOW (Observatory), (Lanark.) Professor Becker, F.R.S.E.	184	Oct.	29·724	29·927	1·699	56·3	34·9	21·4	52·6	43·1	9·5	47·9
		Nov.	29·598	29·801	1·467	56·2	32·4	23·8	48·5	41·1	7·4	44·8
		Dec.	29·708	29·913	2·090	52·7	22·0	30·7	43·7	37·0	6·7	40·4

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
°	°	°	°	°	°	°	inch.											lbs.	days	inch.
115·0	94·0	21·0	33·0	45·5	43·3	40·7	·255	84	0	2	12	0	1	2	9	4	1	0·69	18	2·70
118·0	71·0	18·0	33·6	42·6	40·8	38·6	·235	87	0	1	18	2	0	2	6	1	0	0·56	21	4·78
92·0	58·0	12·0	30·1	38·3	36·6	34·8	·199	86	1	1	9	0	0	3	14	2	1	1·56	20	6·30
...	...	...	...	47·0	44·0	40·6	·253	79	5	0	7	1	0	4	7	3	4	2·02	11	1·15
...	...	...	...	45·0	42·1	38·7	·235	79	4	0	13	4	2	1	3	2	1	1·90	17	2·94
...	...	...	...	40·2	38·5	36·4	·215	87	5	0	6	4	1	2	6	6	1	1·70	14	3·75
...	...	...	...	45·9	44·1	42·1	·269	88	0	0	8	1	0	6	7	4	5	1·04	23	3·49
...	...	...	...	42·7	41·3	39·7	·244	88	0	0	11	7	2	4	4	2	0	1·08	23	4·15
...	...	...	..	39·0	37·2	34·9	·203	86	1	0	7	2	0	7	12	1	1	2·37	23	6·94
...	...	...	...	48·7	46·5	44·2	·291	85	6	0	8	0	5	0	12	0	0	...	17	2·57
...	...	...	...	...	...	..	...	...	1	0	15	3	3	2	5	1	0	...	21	4·13
...	...	...	...	40·0	37·8	34·9	·203	82	0	1	7	3	6	1	10	3	0	...	19	6·41
...	...	...	...	48·1	45·5	42·7	·278	82	5	0	4	2	0	3	4	1	12	0·20	16	3·07
...	...	...	...	45·8	43·3	40·6	·253	82	0	0	4	10	3	0	2	1	10	0·22	20	4·29
...	...	...	...	40·9	38·9	36·4	·215	85	2	1	4	3	2	2	3	4	5	0·70	17	6·58
...	...	...	...	49·0	46·8	44·4	·294	85	4	12	0	0	0	15	0	0	0	...	19	8·39
...	...	...	...	47·2	44·7	41·9	·266	88	1	0	9	7	5	8	0	0	0	...	21	7·42
...	...	...	...	41·5	39·7	37·4	·225	87	3	2	4	5	4	3	8	2	0	...	20	9·14
...	...	...	...	48·8	46·1	43·2	·280	81	4	0	9	3	3	2	9	1	0	...	11	4·67
...	...	...	...	46·1	44·2	42·0	·268	86	1	0	2	12	8	2	4	0	1	...	9	3·84
...	...	...	...	42·3	40·5	38·4	·232	87	4	1	7	3	5	1	10	0	0	...	13	5·23
88·0	67·7	25·0	34·9	47·4	45·4	43·2	·279	86	4	1	3	2	1	5	4	1	10	2·34	17	3·64
62·0	51·1	23·0	35·8	45·6	43·3	40·6	·255	83	0	1	1	5	11	5	2	1	4	2·79	23	6·22
...	...	17·0	31·8	40·8	39·4	37·6	·225	89	2	2	3	5	0	4	5	2	8	1·87	17	3·50
...	...	...	...	47·1	45·2	43·1	·279	86	0	4	6	1	2	5	5	4	4	0·95	17	2·76
...	...	...	...	44·0	42·3	40·3	·250	86	1	3	8	8	2	3	2	1	2	1·17	21	4·97
...	..	...	...	39·4	37·7	35·5	·208	87	0	3	7	3	0	3	10	3	2	1·53	19	4·77
...	...	...	...	47·6	45·3	42·7	·273	84	0	2	4	5	0	9	8	2	1	2·89	17	4·41
...	...	...	...	46·0	43·5	40·7	·255	83	0	0	3	17	0	8	2	0	0	1·68	21	5·83
...	...	...	...	39·5	38·1	36·2	·214	89	0	1	3	8	0	5	9	5	0	5·52	17	7·62
68·9	60·5	27·0	37·8	47·9	45·5	42·9	·276	84	3	4	2	0	6	5	7	0	4	1·48	19	2·83
65·1	52·2	22·1	36·7	44·6	42·8	40·7	·254	86	1	6	9	3	4	1	2	1	3	1·12	20	3·85
59·0	45·3	12·5	33·6	40·1	38·4	36·2	·214	86	3	3	5	0	7	1	10	1	1	2·02	17	6·33
...	...	...	...	46·4	44·4	42·2	·269	86	0	2	1	0	6	8	2	3	9	0·71	18	2·91
...	...	...	...	43·9	41·6	38·9	·238	83	0	0	4	9	7	3	0	0	7	0·76	24	4·80
...	...	...	...	39·3	38·0	36·3	·215	90	0	0	2	3	7	6	3	1	9	1·46	16	5·82
...	...	...	...	44·7	42·9	46·3	·255	87	2	2	6	6	3	6	5	1	0	1·02	13	1·79
...	...	...	...	41·7	39·8	37·5	·225	86	0	0	4	12	9	3	2	0	0	1·00	16	1·93
...	...	...	...	36·4	35·1	33·3	·189	89	3	0	3	3	8	3	9	2	0	1·00	15	2·78
...	...	...	...	48·1	45·7	43·1	·277	83	6	1	17	0	0	0	4	2	1	1·08	15	1·52
...	...	...	...	45·6	42·9	39·8	·246	81	4	3	20	0	0	0	1	1	1	0·56	21	1·69
...	...	...	...	40·4	38·7	36·5	·216	87	6	1	12	0	0	0	10	2	0	1·25	15	3·60
100·1	79·4	26·1	35·1	47·2	45·1	42·8	·275	86	0	4	5	0	2	10	4	0	6	0·30	17	1·86
82·1	56·2	22·9	34·0	44·4	42·3	39·9	·246	84	0	1	15	3	4	3	2	0	2	0·36	18	2·62
75·0	48·0	12·1	31·6	39·9	38·0	35·5	·208	85	0	0	11	0	2	8	7	1	2	3·44	15	4·57

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
BOTHWELL, (Lanark.) John T. Wilson, M.D.	...	Oct.	...	...	...	61·0	30·0	31·0	54·0	40·4	13·6	47·2
		Nov.	...	...	...	55·0	27·0	28·0	49·1	38·6	10·5	43·8
		Dec.	...	...	...	54·0	15·4	38·6	43·6	34·8	8·8	39·2
LEADHILLS, (Lanark.) James M'Farlane.	1300	Oct.	...	...	...	55·1	30·1	25·0	49·6	37·0	12·6	43·3
		Nov.	...	...	...	50·9	29·0	21·9	45·8	36·2	9·6	41·0
		Dec.	...	...	...	49·1	20·0	29·1	37·4	31·5	5·9	34·5
EDINBURGH, Royal Observatory, (Edinburgh.) Professor Copeland, F.R.S.E.	441	Oct.	29·450	29·935	1·718	60·7	36·9	23·8	52·2	42·5	9·7	47·4
		Nov.	29·341	29·824	1·434	59·5	29·6	29·9	49·7	39·7	10·0	44·7
		Dec.	29·427	29·914	2·151	53·4	24·0	29·4	43·5	35·2	8·3	39·4
CORSTORPHINE, (Edinburgh.) T. N. Johnston, M.B.	165	Oct.	29·754	29·937	1·700	59·2	30·4	28·8	53·7	41·8	11·9	47·5
		Nov.	29·649	29·831	1·450	58·9	29·9	29·0	49·4	39·9	9·5	44·6
		Dec.	29·732	29·916	2·150	53·4	17·4	36·0	43·7	34·9	8·8	39·3
LEITH, (Edinburgh.) James Bolam, Navigation School, and George Redpath.	76	Oct.	29·843	29·927	1·755	59·7	34·9	24·8	53·7	44·8	8·9	49·2
		Nov.	29·742	29·826	1·483	58·7	29·7	29·0	49·3	41·3	8·0	45·3
		Dec.	29·821	29·906	2·180	55·2	24·1	31·1	44·7	38·0	6·7	41·3
DALKEITH, (Edinburgh.) J. Whytock, Gardener to the Duke of Buccleuch.	190	Oct.	29·716	29·926	1·550	59·0	34·0	25·0	53·9	41·3	12·6	47·6
		Nov.	29·613	29·843	1·400	58·0	27·0	31·0	49·2	39·2	10·0	44·2
		Dec.	29·706	29·917	2·000	54·0	20·0	34·0	43·5	35·8	7·7	39·7
SMEATON, (Haddington.) John Black, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Oct.	29·825	29·936	1·540	60·5	32·0	28·5	54·7	41·0	13·7	47·8
		Nov.	29·737	29·847	1·350	58·5	26·5	32·0	49·5	38·6	10·9	44·0
		Dec.	29·798	29·910	2·270	56·5	20·5	30·0	45·5	34·7	10·8	40·1
MARCHMONT, (Berwick.) John A. Wood, Gardener.	500	Oct.	29·383	29·935	1·540	58·0	35·0	23·0	52·1	40·8	11·3	46·4
		Nov.	29·298	29·850	1·410	58·0	28·0	30·0	48·1	38·5	9·6	43·3
		Dec.	29·364	29·915	2·160	53·0	24·0	29·0	42·4	34·4	8·0	38·4
DUNS CASTLE, (Berwick.) Robert Aikman, Gardener to R. Mordaunt Hay.	500	Oct.	29·388	29·938	1·680	59·6	31·4	28·2	54·0	40·6	13·4	47·3
		Nov.	29·298	29·848	1·428	59·4	26·4	33·0	49·1	37·1	12·0	43·1
		Dec.	29·368	29·918	2·160	55·0	23·4	31·6	43·0	34·4	8·6	38·7
NORTH ESK RESERVOIR, (Peebles.) William Tod.	1150	Oct.	...	...	...	...	...	...	...	...	...	...
		Nov.	...	...	...	...	...	...	...	...	...	...
		Dec.	...	...	...	...	...	...	...	...	...	...
STOBO CASTLE, (Peebles.) William Young, Gardener to Sir G. G. Montgomery, Bart.	600	Oct.	...	...	...	59·0	25·0	34·0	52·7	38·4	14·3	45·6
		Nov.	...	...	...	58·0	24·0	34·0	48·9	38·1	10·8	43·5
		Dec.	...	...	...	54·0	14·0	40·0	44·2	33·1	11·1	38·7
BROOMLANDS, (Roxburgh.) James Brunton.	205	Oct.	29·707	29·935	1·648	59·0	30·0	29·0	54·3	40·7	13·6	47·5
		Nov.	29·612	29·838	1·422	59·0	25·0	34·0	50·6	37·8	12·8	44·2
		Dec.	29·701	29·929	2·142	55·0	19·0	36·0	44·9	34·8	10·1	39·8
WOLFELEE, (Roxburgh.) William Gordon, Gardener to J. T. S. Elliot.	537	Oct.	29·328	29·938	1·498	57·9	29·5	28·4	52·6	40·0	12·4	45·2
		Nov.	29·218	29·826	1·390	56·0	27·0	29·0	47·3	37·2	10·1	42·3
		Dec.	29·322	29·926	2·042	51·0	21·0	30·0	43·1	33·1	10·0	38·1
DRUMLANRIG, (Dumfries.) David Inglis, Gardener to the Duke of Buccleuch.	191	Oct.	29·729	29·941	1·556	58·4	25·0	33·4	54·6	39·8	14·8	47·2
		Nov.	29·600	29·809	1·450	59·0	23·0	36·0	49·7	37·1	12·6	43·4
		Dec.	29·720	29·932	2·090	53·4	14·0	39·4	44·4	33·7	10·7	39·0
DUMFRIES, (Dumfries.) Rev. William Andson.	60	Oct.	29·877	29·943	1·535	61·0	30·6	30·4	55·1	42·5	12·6	48·8
		Nov.	29·747	29·814	1·455	58·0	25·0	33·0	49·0	38·9	10·1	43·9
		Dec.	29·872	29·938	2·065	52·5	17·5	35·0	44·1	36·3	7·8	40·2

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.		Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	Number of Days it blew in certain Directions.									Mean Pressure on square foot.	Number of days it fell.	Amount.
Highest.	Mean.	Lowest.	Mean.						N	NE	E	SE	S	SW	W	NW	Calm or Variable.			
°	°						inch.											lbs.	days	inch.
...	...	...	...	45·9	44·0	41·8	·266	87	...	...	...	...	...	...	...	...	...	...	11	1·57
...	...	...	...	43·6	41·7	39·3	·248	85	...	...	...	...	...	...	...	...	...	...	16	1·32
...	...	...	..	38·5	36·8	34·4	·199	86	...	...	...	...	...	...	...	...	...	...	15	3·50
...	...	...	...	42·3	41·0	39·4	·242	90	...	...	...	...	...	...	...	...	...	...	17	3·64
...	...	...	...	39·7	38·4	36·7	·218	89	...	...	...	...	...	...	..	...	...	...	21	5·32
...	...	...	...	34·9	33·6	31·6	·177	88	...	...	...	...	...	...	...	...	...	...	22	16·22
113·6	92·9	27·0	38·1	47·1	44·6	41·8	·265	82	2	4	4	1	3	7	7	2	1	2·19	17	1·06
109·2	77·8	19·3	34·4	43·7	41·6	39·1	·240	84	0	0	7	9	8	3	3	0	0	1·69	13	0·60
88·3	60·6	13·4	31·8	39·1	37·4	35·2	·206	86	1	0	5	3	5	3	11	2	1	3·06	16	1·63
111·3	87·9	25·3	35·7	47·0	44·6	41·9	·266	83	2	0	9	0	0	15	0	5	0	0·92	19	1·25
99·8	76·3	19·5	34·7	43·9	41·6	38·9	·238	83	1	0	15	0	4	2	4	0	4	0·86	13	0·91
75·2	56·9	12·9	32·7	39·6	37·6	35·0	·204	84	3	0	7	1	0	0	17	0	3	1·61	14	2·13
...	...	...	...	49·1	46·3	43·3	·282	80	1	3	4	2	2	2	13	3	1	2·62	18	1·14
...	...	...	...	45·0	42·8	40·2	·249	84	0	0	10	9	2	2	7	0	0	2·07	16	0·75
...	...	...	...	41·0	39·2	36·9	·219	86	1	0	4	4	2	2	15	1	2	3·69	19	1·71
...	...	...	...	47·2	45·0	42·6	·273	85	1	2	2	5	1	14	2	4	0	...	...	...
...	...	...	...	44·3	42·3	40·0	·247	84	0	2	1	12	1	10	1	3	0	...	...	...
...	...	...	...	39·7	37·9	35·6	·209	85	0	2	1	5	1	13	2	7	0	...	...	...
75·0	62·3	26·0	37·9	46·9	45·0	42·9	·276	87	2	3	6	1	3	9	7	0	0	...	18	1·10
79·0	61·3	23·0	35·2	43·6	41·8	39·7	·245	86	0	0	5	15	1	6	3	0	0	...	9	1·42
64·0	48·2	17·0	32·8	39·5	37·8	35·5	·209	86	1	1	4	6	4	9	5	1	0	...	16	3·42
67·0	58·6	28·0	36·6	46·7	44·9	42·9	·277	87	1	3	10	2	2	5	7	1	0	1·33	25	2·18
63·0	49·5	24·0	34·3	42·5	40·8	38·7	·236	87	1	2	12	4	5	3	3	0	0	1·83	13	1·71
56·0	41·7	19·0	32·3	38·5	37·0	35·0	·203	87	2	3	6	3	3	6	7	1	0	3·48	15	3·29
...	...	...	...	47·8	46·1	44·2	·291	88	14	0	0	0	5	5	7	0	0	1·56	20	1·97
...	...	...	...	43·1	41·3	38·7	·235	84	2	1	6	2	12	4	3	0	0	1·21	10	2·11
...	...	...	...	38·3	36·5	34·1	·196	85	8	1	4	0	6	5	7	0	0	2·61	16	3·97
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2·50
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3·45
...	...	...	...	45·0	42·7	40·0	·247	83	2	2	5	3	2	5	9	3	0	...	12	1·00
...	...	...	...	43·3	41·1	38·5	·233	83	0	2	4	10	3	7	3	1	0	...	11	1·80
...	...	...	...	38·7	36·7	34·0	·199	85	2	2	5	2	1	4	10	5	0	...	16	4·70
...	...	...	...	46·7	45·0	43·1	·279	88	2	4	9	0	0	7	6	3	0	0·28	19	1·66
...	...	...	...	43·4	41·4	39·1	·238	84	1	0	1	8	2	7	6	1	4	0·22	9	0·32
...	...	...	..	39·8	37·8	35·2	·206	84	1	2	4	3	1	9	7	1	3	0·48	19	2·36
...	...	...	...	45·5	43·6	41·4	·261	86	1	5	1	0	1	2	15	6	0	0·98	16	3·05
...	...	...	...	41·7	40·4	38·8	·237	90	0	3	1	5	1	8	12	0	0	1·44	10	2·22
...	...	...	..	38·4	36·4	33·7	·193	84	1	3	0	4	1	2	19	1	0	2·72	16	5·45
...	...	...	...	46·2	44·2	41·9	·267	86	3	3	3	2	1	13	1	5	0	...	18	3·02
...	...	...	...	42·8	40·8	38·4	·233	85	0	0	0	8	4	13	2	3	0	...	17	3·79
...	...	..	...	...	...	...	...	...	2	1	1	4	1	10	1	11	0	..	16	5·96
...	...	...	...	48·0	45·8	43·4	·281	85	0	5	6	2	2	9	3	3	1	1·56	19	2·64
...	...	..	...	43·4	41·8	40·0	·247	87	1	0	10	8	2	6	2	0	1	1·44	19	3·59
...	...	...	...	41·5	39·7	37·4	·225	87	0	2	6	2	1	8	7	5	0	1·82	17	4·14

STATIONS AND OBSERVERS' NAMES.	Height of Station above the Sea.	1902.	BAROMETER.			SELF-REGISTERING						
						In AIR, and protected.						
		Months.	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea-level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.
	feet.		inch.	inch.	inch.	°	°	°	°	°	°	°
CARGEN. (Kirkcudbright.)	85	Oct.	29·853	29·947	1·460	59·0	29·0	30·0	54·6	41·6	13·0	48·1
ALEX. PEACOCK, Gardener to Colonel		Nov.	29·716	29·811	1·430	57·0	25·0	32·0	48·9	37·9	11·0	43·4
Dudgeon.		Dec.	29·847	30·942	2·058	53·0	19·0	34·0	44·2	35·8	8·4	40·0
CALLY. (Kirkcudbright.)	120	Oct.	29·815	29·947	1·370	59·7	30·0	29·7	56·1	41·5	14·6	48·8
WM. THOMSON, Gardener to H. G.		Nov.	29·677	29·809	1·450	57·0	30·0	27·0	49·8	37·7	12·1	43·8
Murray Stewart of Broughton.		Dec.	29·815	29·948	1·950	54·6	18·4	36·2	43·7	36·2	7·5	39·9
BEN NEVIS OBSERVATORY, (Inverness.) R. T. OMOND, F.R.S.E.	4407	Oct.	25·351	29·907	1·533	45·5	24·9	20·6	35·5	24·9	10·6	32·4
and ANGUS RANKIN.		Nov.	25·186	29·729	1·263	40·3	20·3	20·0	32·7	27·2	5·5	30·0
		Dec.	25·252	29·855	1·790	45·0	13·2	31·8	29·3	22·5	6·8	25·9

THERMOMETERS.				HYGROMETER.		DEDUCTIONS. Glaisher's Tables. 2d Ed.			WINDS.										RAIN.	
Black Bulb, Maximum, in SUN.		Black Bulb, Minimum from radiation during Night.							Number of Days it blew in certain Directions.											
Highest.	Mean.	Lowest.	Mean.	Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity. Sat. = 100.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Pressure on square foot.	Number of days it fell.	Amount.
	°	°	°	°	°	°	inch.											lbs.	days	inc
...	...	...	...	48·7	46·8	44·8	·198	87	2	2	8	2	3	3	6	5	0	0·98	14	3·80
...	...	...	...	43·8	42·6	41·1	·259	91	1	1	6	9	4	3	4	2	0	0·90	15	4·21
...	...	...	...	40·1	38·6	36·7	·217	86	0	4	6	2	2	4	7	6	0	2·25	16	5·66
...	...	...	...	48·6	47·0	45·8	·302	89	3	7	1	2	2	7	1	8	0	0·98	17	3·78
...	...	...	...	43·8	41·5	38·7	·237	82	1	6	5	7	2	2	0	7	0	1·34	18	7·32
...	...	...	...	39·2	38·0	36·4	·216	90	2	5	1	6	0	5	2	10	0	1·21	16	5·45
...	...	...	...	32·3	32·0	31·4	·178	97	6	4	3	5	2	1	6	2	1	1·12	21	16·31
...	...	...	...	29·9	29·7	29·0	·161	97	1	0	3	16	4	2	3	1	0	3·57	24	7·86
...	...	...	...	26·0	25·1	20·5	·110	78	7	1	3	7	3	3	3	4	0	2·10	22	23·43

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 31st MARCH 1903.

By Dr **Buchan**, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 60 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N.; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1903.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %.	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
Jan.	29·746	40·9	32·2	36·5	55·0	1·0	36·8	1·7	·186	86	19	6·04	6·5	*
Feb.	29·745	47·5	36·8	42·2	59·0	22·8	41·9	2·1	·224	85	19	6·10	7·0	*
Mar.	29·512	46·8	35·4	41·1	57·8	22·0	40·8	2·1	·212	84	25	5·96	6·5	*

1903.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS										Thunder heard.	
	3 Inches	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
Jan.	35·8	36·5	37·3	40·0	41·4	4	4	4	6	8	14	14	4	4	3·6	8	1
Feb.	40·1	40·2	40·2	41·2	41·6	2	1	2	2	7	17	17	6	2	3·8	16	2
Mar.	39·6	40·2	40·5	41·3	41·7	2	1	3	5	9	22	14	4	2	3·3	8	1

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these results are compared with the averages of 1856–1900, during the same months, they show the following characteristics and differences :—

JANUARY 1903—

Mean Barometric Pressure, 29·746 inches; less than the average of 1856–1900 by 0·050 inch.
Mean Temperature, 36°·5; less by 0°·7.
Mean Daily Range of Temperature, 8°·7; less by 0°·5.
Mean Humidity, 86 per cent.; less by 1·6.
Rain, Number of Days, 19; greater by 2 days.
Rain, Depth in Inches, 6·04; greater by 2·18 inches.
Wind, Mean Force (on Scale of 0–12), 3·6: greater by 0·3.
Wind, Direction of, 1 day's excess of winds from W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·5; less by 0·2.

FEBRUARY 1903—

Mean Barometric Pressure, 29·745 inches; less than the average of 1856–1900 by 0·105 inch.
Mean Temperature, 42°·2; greater by 3°·9.
Mean Daily Range of Temperature 10°·7; greater by 0°·5.
Mean Humidity, 85 per cent.; less by 1·8.
Rain, Number of Days, 19; greater by 4 days.
Rain, Depth in Inches, 6·10; greater by 3·05 inches.
Wind, Mean Force (on Scale of 0–12), 3·8; greater by 0·9.
Wind, Direction of, a 6 days' excess of winds from S.W. and W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·0; greater by 0·6.

MARCH 1903—

Mean Barometric Pressure, 29·512 inches; less than the average of 1856-1900 by 0·310 inch.
Mean Temperature, 41°·1; greater by 1°·7.
Mean Daily Range of Temperature, 11°·4; less by 0°·7.
Mean Humidity, 84 per cent.; less by 1.
Rain, Number of Days, 25; greater by 10 days.
Rain, Depth in Inches, 5·96; greater by 3·12 inches.
Wind, Mean Force (on Scale of 0–12) 3·3; greater by 0·4.
Wind, Direction of, a 9 days' excess of winds from S., S.W. and W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·5; greater by 0·2.

JANUARY 1903—

Hence the weather of JANUARY 1903 was characterized by a mean barometric pressure a little below the average; a mean temperature somewhat below the average, with a slightly low mean daily range; a rather low mean humidity; a mean rainfall greatly above the average, and falling on 2 days more than the average number; a mean wind force above the average, with a slight excess of westerly winds.

The mean barometric pressure was 29·746 inches, or 0·050 inch below the average. Pressure was very low from the 1st to the 10th, high from the 11th to the 21st, and low thereafter. The extremes at Leith were, at sea-level, 30·635 inches on the 13th and 28·732 inches on the 7th.

The mean temperature of the month was 36°·5, or 0°·7 below the mean, the days being 0°·9 and the nights 0°·4 below their respective averages. In Shetland, Orkney, and along the East coast the difference from the average was very slight, whilst in inland districts there was a well-marked deficiency which at a few places exceeded 1°·5. In the south the deficiency was less than 1°. The first week of the month was extremely mild, but on the evening of the 10th a very severe frost set in, reaching its greatest intensity on the 14th and continuing until the 17th. Thereafter the weather became very mild and remained so until the end of the month. The difference between the temperature at the middle of the month and during the last week was very great. Thus at Leith the mean temperature of the week ending on the 17th was 31°·0, whilst for that ending on the 31st it was 46°·7. The corresponding temperatures were for Glasgow, 28°·3 and 45°·2, for Fort William, 29°·9 and 45°·6, and for Braemar, 23°·9 and 41°·3. The absolutely highest temperature was 55°·0 at Crathes on the 30th, and the lowest 1°·0 at Braemar on the 13th.

The mean rainfall was 6·04 inches, or 56 per cent. above the average, being the largest January rainfall since 1877. At Glasgow and Paisley the total for the month exceeded, and at Edinburgh, Leith, Lednathie and Fort Augustus closely approached twice the average. The excess was equal to only 10 per cent. at Deerness, but in the mainland was everywhere well-marked. From the 11th to the 20th hardly any rain fell, whilst the first and last ten days of the month were very wet, many daily amounts exceeding an inch being recorded, the heaviest falls occurring on the 9th and 29th. At Glencarron 3·15 inches fell on the 29th and 2·14 on the 30th, the total for these two days being 3·61 inches at Fort Augustus and at Fort William, where the daily fall exceeded an inch on 7 days, 4·00 inches. The heavy falls on the 9th were largely made up of snow and sleet and were accompanied by an easterly gale. The monthly rainfall on Ben Nevis was 33·45 inches, the greatest daily fall being 4·78 inches on the 29th.

On the 9th a severe snow-storm was general over the country, and blocks occurred on the Highland railways.

During the last ten days of the month strong westerly winds, occasionally reaching gale force, prevailed, while owing to the heavy rains and melting snow many rivers were by the 28th in full flood.

On the 26th lightning, and on the 27th thunder, was reported generally in the North and West.

FEBRUARY 1903—

Hence the weather of FEBRUARY 1903 was characterized by a mean barometric pressure considerably below the average; a very high mean temperature, with a slightly high mean daily range; a rather low mean humidity; a mean rainfall twice the average, and falling on 4 days more than the average number; a mean wind force above the average, with a great excess of winds from W. and S.W.

The mean barometric pressure was 29·745 inches, or 0·105 inch below the average. The distribution of pressure was remarkable, an exceedingly steep gradient being formed from S.W. to N.E. Thus the mean for the month at Cally (Gatehouse) was, at sea-level, 29·881 inches, whilst that at North Unst was 29·423 inches, giving a gradient of 0·423 inch against a normal gradient of 0·168 inch. Strong winds from W. and S.W., frequently reaching gale force, blew on 6 days more than the average number, and the month was characterized by a succession of deep depressions passing from S.S.W. to N.N.E. The deepest of these occurred on the 27th, and at 7 a.m. on that day the barometer at Leith fell, at sea-level, to 28·244 inches.

The mean temperature was 42°·2, or 3°·9 above the average, the days being 4°·1 and the nights 3°·6 above their respective averages. Except in 1882, when the monthly

[*Continued on page* 148.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	280	Jan.	29·335	...	...	...	...	...	...	...	...	39·7	...	...	...
		Feb.	29·223	...	...	...	...	...	...	...	...	40·0	...	...	...
		Mar.	29·077	...	...	...	...	...	...	...	...	41·0	...	...	...
LERWICK, (Shetland.) G. Allison, Harbour Master.	30	Jan.	29·572	42·9	37·3	40·1	...	49·0	29	27·0	11	40·6	2·2	·209	83
		Feb.	29·469	46·7	36·3	41·5	...	51·5	18	29·0	13	40·8	2·3	·209	82
		Mar.	29·316	45·5	37·6	41·6	...	48·5	16, 26	32·0	3, 8	41·7	1·8	·227	87
DEERNESS, (Orkney.) M. Spence, Schoolhouse.	172	Jan.	29·464	42·0	35·5	38·8	−0·4	49·4	29	27·8	11	39·3	2·1	·200	84
		Feb.	29·374	45·1	36·3	40·7	+2·3	53·8	19	32·0	2	40·7	1·8	·220	87
		Mar.	29·202	44·1	36·6	40·4	+1·8	48·2	22	31·6	2	40·5	1·8	·215	86
KIRKWALL, (Orkney.) James Begg, S.S.C.	30	Jan.	...	42·6	35·5	39·0	−0·4	50·5	29	27·0	14	39·7	2·1	·203	83
		Feb.	...	45·7	37·0	41·3	+2·3	52·5	17	31·0	15	41·9	2·1	·224	85
		Mar.	...	...	...	...	...	...	...	...	...	...	...	...	...
DUNROBIN, (Sutherland.) D. Melville, Gardener, Dunrobin Castle.	16	Jan.	29·688	41·1	32·7	36·9	−1·4	53·0	29	20·0	14	36·8	1·5	·190	88
		Feb.	29·624	46·6	36·4	41·5	+3·0	55·0	10	31·0	24	41·4	2·4	·212	82
		Mar.	29·424	46·6	35·9	41·3	+1·1	52·0	21	29·0	7	40·2	2·4	·201	81
LAIRG, (Sutherland.) Rev. John K. Maclean.	390	Jan.	29·229	38·2	30·7	34·5	−1·8	50·5	25	6·0	14	33·6	1·0	·172	89
		Feb.	29·198	44·3	35·1	39·7	+3·5	57·0	19	27·0	27	38·8	1·6	·205	87
		Mar.	28·974	46·2	32·5	39·4	+0·8	54·0	25	25·0	4	38·5	2·0	·194	84
GLENCARRON, (Ross.) D. D. Munro.	504	Jan.	29·129	40·7	30·3	35·5	−1·7	52·0	26	14·5	14	36·0	1·8	·179	84
		Feb.	29·121	45·9	35·4	40·7	+3·5	54·7	20	29·5	28	40·7	2·3	·208	82
		Mar.	28·874	45·0	33·6	39·3	+1·1	55·2	21	26·0	2	39·2	2·3	·195	81
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	Jan.	29·478	...	...	...	...	...	...	...	...	40·2	...	...	...
		Feb.	29·465	...	...	...	...	...	...	...	...	43·2	...	...	...
		Mar.	29·212	...	...	...	...	...	...	...	...	43·1	...	...	...
KINGUSSIE, (Inverness.) Dr Walter de Watteville, and J. Campbell.	828	Jan.	28·812	33·1	...	...	...	48·8	30	...	...	33·9	1·3	·169	86
		Feb.	28·804	45·4	32·9	39·2	+4·1	52·0	10	25·5	27	39·2	1·7	·207	86
		Mar.	28·580	44·2	30·8	37·5	+0·9	52·0	31	22·0	7	37·7	1·9	·190	83
INVERNESS, (Inverness.) Thos. Wallace, High School.	114	Jan.	29·583	41·8	32·9	37·3	−1·1	52·0	28	20·8	14, 20	37·1	1·6	·190	86
		Feb.	29·559	46·9	38·6	42·7	+3·8	54·0	10	32·4	28	42·3	2·0	·228	85
		Mar.	29·315	46·8	36·3	41·5	+1·5	56·2	28	28·6	15	41·8	2·4	·217	82
FORT AUGUSTUS, (Inverness.) Rev. Cyril von Deckhoff, St Benedict's Priory.	78	Jan.	29·623	41·0	31·6	36·3	−1·7	50·1	26	15·0	13	37·0	1·7	·187	85
		Feb.	29·620	47·0	36·6	41·8	+3·2	54·0	14	28·0	13	41·7	1·6	·230	88
		Mar.	29·381	46·0	34·6	40·3	+0·4	54·0	25	27·0	15	40·0	1·9	·209	85
FORT WILLIAM, (Inverness.) R. T. Omond, F.R.S.E., and Angus Rankin.	42	Jan.	29·682	42·7	32·7	37·7	−1·4	51·4	26	19·0	13	38·4	2·3	·188	82
		Feb.	29·690	47·4	38·0	42·7	+3·6	54·8	19	29·0	28	43·6	2·8	·224	79
		Mar.	29·434	46·9	35·8	41·3	+0·9	57·0	21	31·0	15	41·3	2·4	·211	81
GORDON CASTLE, (Banff.) C. Webster, Gardener to the Duke of Richmond and Gordon.	107	Jan.	29·592	42·0	32·5	37·3	−0·5	53·0	25	17·2	14	38·3	2·4	·185	80
		Feb.	29·569	49·1	36·8	42·9	+4·6	59·0	19	32·5	1, 9	42·8	3·8	·199	72
		Mar.	29·340	47·3	35·3	41·3	+1·3	57·5	28	27·2	15	41·7	3·2	·201	77
BRAEMAR, (Aberdeen.) James Aitken, Banker.	1114	Jan.	28·518	37·0	28·3	32·7	−1·0	47·3	26	1·0	13	32·7	1·2	·161	86
		Feb.	28·510	43·9	34·1	39·0	+4·7	52·7	19	28·2	28	38·8	2·2	·190	81
		Mar.	28·295	42·5	32·5	37·5	+2·1	50·0	21, 22	23·2	7	37·2	2·1	·182	82
LOANHEAD, (Aberdeen.) Alex. Farquharson.	747	Jan.	28·901	39·4	30·6	35·0	−0·8	51·6	26	12·4	14	35·6	1·2	·187	89
		Feb.	28·900	46·7	34·7	40·7	+4·6	56·9	19	29·0	13	40·5	2·2	·208	82
		Mar.	28·670	45·7	33·7	39·6	+2·2	54·3	21	24·4	15	39·7	2·1	·203	83

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
9·0	...	...	...	...	...	7	0	1	0	22	0	5	10	4	0	0	20	10	14	4	0	5·9
9·4	...	...	...	...	...	7	0	1	0	25	0	5	10	4	0	3	5	13	12	9	0	6·0
8·2	...	...	...	...	...	4	2	0	1	16	0	6	1	1	0	1	16	18	16	9	0	5·2
...	21	5·07	...	0·77	2	...	...	...	...	...	...	10	8	4	0	0	20	16	10	2	2	4·9
...	21	4·97	...	0·82	1	...	...	...	...	...	...	12	4	2	1	2	9	11	14	12	1	4·7
...	25	5·82	...	0·52	4	...	...	...	...	...	...	10	2	0	0	3	11	34	7	5	0	5·1
6·2	19	3·30	+ 0·26	0·54	8	6	0	1	1	10	0	10	4	2	2	6	22	12	10	4	0	4·9
6·5	16	5·03	+ 2·25	1·07	22	4	1	2	1	8	0	6	2	2	2	1	14	14	14	7	0	5·0
5·7	15	2·18	– 0·42	0·40	23	2	2	0	5	4	0	5	2	1	0	6	23	22	7	1	0	4·2
...	20	4·61	+ 0·63	0·45	8	...	...	...	...	...	...	4	4	0	6	8	26	10	6	0	2	3·6
...	22	6·33	+ 2·98	1·20	27	...	...	...	...	...	...	5	0	0	6	4	14	4	20	6	2	4·4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	13	3·94	+ 1·97	0·76	9	5	1	0	...	...	0	1	9	5	1	6	3	4	18	16	0	...
...	16	3·06	+ 0·75	0·90	8	3	0	0	...	...	0	3	3	2	3	4	1	3	18	22	0	...
...	19	2·10	– 0·25	0·40	19	3	0	0	...	...	1	1	8	2	5	3	5	2	20	17	0	...
5·0	16	4·47	+ 1·10	0·94	29	4	0	0	10	9	1	2	4	0	2	12	4	4	16	8	12	2·2
6·2	22	4·58	+ 1·62	0·66	9	10	0	0	1	6	0	5	2	0	1	2	6	4	20	13	8	2·4
5·5	25	3·10	+ 0·16	0·52	28	8	0	0	2	7	0	1	1	0	4	8	13	10	17	4	5	2·1
7·5	20	14·01	+ 4·45	3·15	29	...	...	2	4	20	...	5	14	0	16	0	0	2	30	0	0	4·8
9·1	27	13·54	+ 6·06	1·41	3	...	...	1	0	21	...	7	5	0	4	1	0	0	44	0	2	4·7
7·6	29	11·45	+ 3·75	1·21	21	...	...	0	1	20	...	2	4	0	6	0	2	1	48	0	1	4·1
8·8	19	5·45	+ 0·14	0·70	30	2	0	0	0	18	0	9	8	4	2	14	6	10	16	2	0	6·8
9·1	22	5·33	+ 1·32	0·53	23	2	2	0	1	22	0	11	3	1	2	1	14	14	16	5	0	6·3
8·0	26	7·60	+ 4·05	1·10	25	2	0	0	0	12	0	10	2	1	0	5	14	16	19	4	1	6·1
7·8	14	5·99	+ 3·74	0·82	29	4	...	...	0	18	...	...	...	...	...	...	...	...	...	...	...	...
7·7	18	5·46	+ 3·51	0·72	8	1	...	...	0	15	...	...	...	...	...	...	...	...	...	...	...	...
7·0	27	5·78	+ 3·87	0·68	5	3	...	...	1	10	...	...	...	...	...	...	...	...	...	...	...	...
7·5	16	4·47	+ 2·02	0·76	9	3	1	0	2	17	3	7	2	6	4	0	4	26	18	2	0	3·5
8·6	18	4·12	+ 2·15	0·62	24	5	0	2	0	16	0	6	1	0	2	1	0	22	27	3	0	3·6
7·8	23	4·15	+ 2·26	0·62	18	8	2	0	0	12	0	7	1	1	3	2	2	37	13	3	0	3·1
5·6	20	10·18	+ 4·93	2·11	29	5	0	0	3	10	0	9	4	6	0	4	16	18	2	4	8	3·7
6·1	23	10·50	+ 6·73	1·39	24	4	2	1	2	11	0	10	2	2	0	0	22	17	1	1	10	4·3
7·6	29	9·94	+ 6·86	1·17	18	6	1	0	1	15	0	6	0	2	0	1	32	11	3	1	12	3·8
7·0	20	15·49	+ 6·81	2·16	29	1	1	3	3	13	0	3	2	8	4	2	4	20	6	0	16	1·3
8·5	26	16·46	+ 9·11	2·07	19	7	3	3	0	15	1	4	4	2	1	1	3	26	15	0	4	3·8
8·4	30	15·90	+10·18	2·03	18	6	4	0	1	20	0	6	1	2	3	2	11	25	13	2	3	1·5
6·3	14	3·52	+ 1·45	1·08	10	...	...	0	2	8	...	...	2	0	2	12	14	22	4	4	2	...
7·0	17	2·76	+ 0·79	0·59	9	...	...	2	0	12	...	...	0	0	0	7	4	35	2	8	0	...
6·0	16	1·10	– 1·08	0·23	19	...	...	0	2	3	...	...	0	0	0	8	15	33	3	3	0	...
7·2	19	4·57	+ 1·54	0·65	27	5	0	0	1	10	0	9	2	8	0	4	4	34	2	8	0	2·2
7·2	19	6·74	+ 3·95	1·45	24	10	0	0	0	7	1	4	5	0	0	0	1	43	3	4	0	3·0
6·3	27	6·96	+ 4·52	0·86	18	5	0	0	1	10	0	4	3	0	1	0	1	55	3	4	0	2·9
6·1	17	2·43	+ 0·48	0·90	10	8	0	0	0	12	2	8	4	2	2	8	2	0	20	10	14	4·6
5·6	17	3·10	+ 1·01	1·21	8	5	0	0	5	10	0	5	1	2	0	3	0	15	11	12	12	2·6
6·0	22	1·63	– 0·59	0·21	3	3	0	0	6	12	0	6	0	0	1	10	0	12	15	14	10	1·4

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
TILLYPRONIE, (Aberdeen.) Robt. Littlejohn, Gardener to Sir John F. Clark, Bt.	1120	Jan.	28·504	38·7	29·9	34·3	−0·4	50·5	26	17·0	13	34·1	1·6	·165	83
		Feb.	28·496	45·4	32·9	39·1	+4·0	54·1	19	28·3	13	38·3	2·0	·192	83
		Mar.	28·277	43·8	32·4	38·1	+1·7	52·5	21	26·3	4, 15	37·3	2·0	·184	83
ABERDEEN, (Aberdeen.) Peter Harper, Superintendent, Duthie Park.	44	Jan.	29·687	42·2	33·3	37·7	+0·7	53·0	26, 30	17·0	14	37·4	1·8	·192	86
		Feb.	29·666	47·5	36·1	41·8	+4·4	57·5	19	30·2	17	40·9	2·2	·211	84
		Mar.	29·460	47·5	35·5	41·5	+1·5	53·0	19	27·5	14	41·0	2·0	·215	84
HADDO HOUSE, (Aberdeen.) John Forrest, Gardener to the Earl of Aberdeen.	194	Jan.	29·520	41·0	31·5	36·2	−0·3	53·5	30	11·5	14	36·2	1·2	·191	89
		Feb.	29·497	46·9	35·0	41·0	+4·6	54·5	10	29·5	24	41·0	2·4	·208	81
		Mar.	29·383	48·5	34·0	41·2	+1·9	57·5	21	24·0	7	40·8	2·3	·211	82
PETERHEAD, (Aberdeen.) Dr W. H. M'Walter, H.M. Prison.	100	Jan.	29·608	43·8	33·9	38·8	−0·1	54·0	26	22·0	14	39·0	1·6	·207	87
		Feb.	29·568	47·3	36·0	41·6	+2·7	57·0	19	31·0	18	41·2	2·1	·215	84
		Mar.	29·360	47·2	34·8	41·0	+0·6	51·9	28	23·9	6	41·0	1·8	·211	86
CRATHES, (Kincardine.) J. Smith.	145	Jan.	29·574	41·4	30·6	36·0	...	55·0	30	7·0	14	36·7	1·7	·185	85
		Feb.	29·567	48·6	35·0	41·8	...	58·5	19	29·0	28	41·7	1·8	·208	79
		Mar.	29·350	47·4	34·4	40·9	...	55·0	22	24·5	15	40·7	2·5	·201	81
MONTROSE, (Forfar.) (Royal Asylum), Dr John G. Havelock.	200	Jan.	29·511	39·8	33·2	36·5	−0·8	50·6	26	18·3	13, 14	36·6	1·4	·190	88
		Feb.	29·512	46·6	36·4	41·5	+3·8	58·6	4	30·0	28	40·7	2·1	·211	84
		Mar.	29·304	45·2	35·7	40·5	+1·2	51·6	21	29·3	7	39·4	2·1	·201	88
ARBROATH, (Forfar.) James Campbell, "For the Natural History Assoc. of Arbroath."	68	Jan.	29·688	42·1	34·5	38·3	+0·5	51·0	26	21·0	14	38·3	1·6	·200	87
		Feb.	29·683	47·7	36·6	42·2	+3·6	55·0	19	25·0	28	42·2	2·1	·225	85
		Mar.	29·461	46·5	36·2	41·4	+0·9	53·0	22	29·0	7	41·2	2·2	·213	83
DUNDEE, Eastern Necropolis, (Forfar.) J. Carnochan, Curator.	164	Jan.	29·577	40·1	32·8	36·5	−0·4	51·0	25, 26	16·9	14	36·9	1·4	·198	89
		Feb.	29·569	47·5	36·5	42·0	+4·1	54·0	19	29·5	18	41·3	2·0	·225	85
		Mar.	29·352	46·9	35·7	41·3	+1·5	54·6	22	28·4	4	40·8	1·9	·212	84
DUNDEE, Harbour, (Forfar.) J. Thomson, Jr., Harbour Trust.	20	Jan.	29·749	41·4	32·7	37·0	−0·5	52·0	26	21·2	14	38·2	1·4	·196	86
		Feb.	29·740	49·2	36·7	42·9	+3·3	55·2	14	33·0	1, 23	43·3	2·7	·223	80
		Mar.	29·520	49·0	37·1	43·0	+1·7	56·0	31	30·2	8	42·4	2·6	·217	81
LEDNATHIE, (Forfar.) Wm. Morrison, Gardener to Patrick Stormonth Darling.	720	Jan.	28·943	38·2	28·5	33·3	−1·6	49·9	26	10·5	14	34·6	1·2	·177	88
		Feb.	28·941	45·2	32·6	38·9	+3·6	53·0	14, 19	22·8	26	39·1	2·0	·200	84
		Mar.	28·724	44·3	31·2	37·8	+0·8	51·0	21, 22	22·0	7	37·7	1·8	·192	84
BALRUDDERY, (Forfar.) R. Cairns, Gardener to J. Martin White.	280	Jan.	29·452	39·8	32·4	36·1	−0·8	53·0	26	20·0	13, 14	36·3	1·5	·186	87
		Feb.	29·441	47·9	36·5	42·2	+3·9	57·0	19	27·0	28	41·1	1·7	·222	86
		Mar.	29·217	45·8	35·5	40·7	+0·6	54·0	21	28·0	4	39·9	1·8	·210	86
PERTH, (Perth.) John Leslie, Gardener to Henry Coats.	105	Jan.	29·646	40·6	31·4	36·0	−1·0	53·5	25	11·0	14, 15	35·8	1·6	·181	86
		Feb.	29·640	49·3	36·4	42·8	+4·5	57·0	19	27·0	13	42·5	2·5	·220	81
		Mar.	29·422	47·6	34·6	41·1	+1·0	55·5	21, 25	26·0	14	40·7	2·3	·208	82
STRONVAR, (Perth.) D. L. Mackintosh, Gardener to James Carnegie.	422	Jan.	29·286	39·5	29·9	34·7	−1·9	51·5	26	11·5	14	35·1	1·3	·179	87
		Feb.	29·298	47·5	34·5	41·0	+4·1	54·5	10	23·5	13	40·6	2·2	·209	83
		Mar.	29·065	45·6	33·2	39·4	+0·6	51·5	21, 31	24·5	2	38·6	2·0	·196	84
OCHTERTYRE, (Perth.) George Croucher, Gardener to Sir Patrick Keith Murray, Bart.	333	Jan.	29·386	39·7	30·6	35·2	−1·4	49·0	26, 30	13·0	14	35·3	1·1	·185	90
		Feb.	29·395	47·3	36·5	41·9	+4·3	55·0	14	28·0	12, 27	41·0	2·0	·215	84
		Mar.	29·152	46·5	34·5	40·5	+1·9	54·0	25	27·0	14	39·5	1·8	·208	86
CLATHICK, (Perth.) Alex. Hendry.	300	Jan.	29·419	..	31·1	...	...	...	...	13·0	15	35·6	1·2	·187	89
		Feb.	29·434	...	36·8	...	...	...	...	27·0	13	42·0	2·0	·225	85
		Mar.	29·199	...	34·9	...	...	...	...	27·0	15	40·0	1·8	·211	86

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
6·7	19	2·38	+ 0·48	0·75	9	3	0	0	3	12	0	8	0	0	0	16	0	18	2	26	0	4·3
6·8	16	3·35	+ 1·82	1·32	9	5	0	0	0	3	1	7	1	0	0	4	0	13	2	31	0	5·7
6·4	22	1·51	− 0·76	0·21	1)	3	1	0	1	7	0	3	0	0	0	17	1	33	0	11	0	5·6
5·6	16	4·51	+ 2·11	1·25	9	4	0	0	1	5	0	8	2	2	2	2	16	26	8	4	0	3·4
4·4	12	2·26	+ 0·05	1·15	8	2	0	0	3	2	0	6	0	1	0	2	4	30	10	9	0	4·4
4·7	18	1·64	− 0·65	0·33	16	0	0	0	6	3	0	2	0	1	0	7	5	39	6	4	0	3·8
...	15	2·71	+ 0·05	...	...	...	...	...	...	...	...	...	4	4	4	6	10	22	6	6	0	...
...	14	2·79	+ 0·19	...	...	...	...	...	...	...	...	...	1	1	0	4	4	26	6	14	0	...
...	19	1·17	− 1·47	...	...	...	...	...	...	...	...	...	0	0	0	4	20	26	4	8	0	...
...	...	...	...	...	..	5	0	0	...	...	1	7	4	2	0	6	22	8	8	6	6	4·4
...	13	2·75	+ 0·89	...	...	2	0	0	...	...	0	6	2	1	0	7	18	12	5	10	1	4·4
...	13	0·75	− 0·93	...	...	1	1	0	...	...	0	11	1	0	0	4	25	17	8	5	2	4·9
6·7	18	5·05	...	1·48	9	4	0	0	5	15	2	4	4	0	0	4	12	18	12	2	10	2·6
6·3	16	3·87	...	1·13	8	4	1	1	5	10	1	8	2	0	0	2	12	19	11	5	5	2·8
5·9	22	3·58	...	0·90	16	0	0	0	5	8	0	2	1	2	1	7	14	26	5	2	4	2·7
...	17	4·40	+ 2·22	1·18	9	2	0	0	...	...	2	4	6	4	0	10	8	14	14	6	0	3·6
...	11	2·93	+ 0·88	0·80	8	1	0	0	...	...	0	5	4	1	2	2	20	18	6	3	0	4·4
...	19	3·19	+ 1·36	0·46	16	3	0	1	...	...	0	4	3	0	1	7	15	15	18	3	0	3·8
5·9	19	3·71	+ 1·48	1·34	9	5	0	0	1	10	1	5	6	6	2	10	6	10	16	6	0	3·4
5·4	14	2·73	+ 0·92	1·19	8	4	0	0	2	3	0	7	2	3	1	1	1	22	21	4	1	3·6
5·2	22	1·88	+ 0·11	0·23	22, 25	3	0	0	4	5	0	5	4	2	3	10	4	19	19	1	0	3·6
8·9	19	3·89	+ 1·55	0·76	6	0	0	0	0	24	2	5	2	10	2	8	0	18	14	8	0	3·0
8·5	16	3·33	+ 1·27	1·31	8	0	0	0	0	15	0	6	1	2	2	4	1	32	5	9	0	4·3
8·4	27	2·47	+ 0·61	0·29	22	0	0	0	0	18	0	1	0	4	0	6	4	37	4	7	0	3·2
5·9	19	3·82	...	0·83	7	1	0	0	1	12	1	7	2	10	2	6	2	10	24	4	2	3·4
6·4	15	4·06	...	1·25	8	1	0	0	3	10	0	6	0	1	7	1	0	19	21	7	0	4·1
7·0	27	2·77	...	0·32	23	0	0	0	8	6	0	3	1	0	3	4	2	29	19	4	0	3·4
8·0	26	7·45	+ 3·56	1·03	1	11	0	0	1	18	0	9	4	4	0	8	4	6	22	10	4	3·7
7·2	17	5·99	+ 2·82	1·57	24	7	1	0	0	9	0	6	3	2	0	0	3	5	30	12	1	5·0
7·4	28	7·34	+ 4·85	1·38	16	11	4	0	1	11	1	10	2	1	1	7	6	14	16	15	0	4·4
...	17	3·70	...	0·75	10	2	0	0	...	...	0	7	8	6	2	8	2	12	16	8	0	4·9
...	14	4·11	...	1·34	8	4	0	0	...	...	0	5	2	0	3	2	0	20	23	6	0	5·3
...	24	3·31	...	0·31	23	3	0	1	...	...	0	6	5	1	4	1	2	30	11	8	0	3·6
5·5	18	4·54	+ 1·44	...	...	...	...	...	...	...	...	8	2	4	8	8	6	6	16	4	8	2·5
6·3	18	4·69	+ 2·12	...	...	...	...	...	...	...	...	3	1	0	2	0	3	15	26	6	3	2·3
7·0	25	4·34	+ 2·03	...	...	...	...	...	...	...	...	4	0	0	3	2	8	29	12	3	5	2·5
...	28	15·38	+ 5·95	2·25	29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	27	15·13	+ 8·06	2·24	7	4	0	0	...	...	0	11	0	2	0	2	0	26	20	6	0	...
...	31	18·31	+12·51	2·13	21	3	0	0	...	...	0	10	0	0	4	4	2	40	10	2	0	...
7·2	23	7·87	+ 3·16	0·83	1	...	...	0	3	16	...	6	1	0	20	1	1	12	25	2	0	2·0
7·7	21	6·64	+ 3·17	1·47	8	...	...	0	2	19	..	6	0	0	5	1	1	16	28	4	1	2·6
7·2	31	8·03	+ 5·27	1·05	17	...	...	0	1	13	...	2	1	0	6	0	4	23	25	2	1	2·1
6·8	21	7·82	...	0·92	10	2	0	0	2	14	0	4	7	6	18	0	5	15	9	1	1	3·5
7·3	20	7·33	...	1·53	8	4	1	0	2	16	0	6	10	2	4	0	12	9	1	14	4	3·8
6·8	26	7·49	...	1·21	18	7	0	0	1	10	0	4	3	3	18	3	20	11	6	3	0	3·2

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.											inch.	
CUPAR, (Fife.) Dr Turnbull, Fife and Kinross District Asylum.	210	Jan.	29·534	42·6	32·1	37·4	−0·6	53·0	30	14·0	14	36·7	1·9	·182	84
		Feb.	29·534	48·9	37·0	43·0	+5·1	57·0	20	29·0	28	43·0	2·4	·226	82
		Mar.	29·307	47·8	35·4	41·6	+1·8	56·0	22, 23	26·0	14	41·3	2·2	·215	83
BUCHLYVIE, (Stirling.) Rev. John A. Macdonald.	125	Jan.	29·631	40·6	31·7	36·2	−1·0	52·0	26	10·0	14	35·4	1·3	·182	88
		Feb.	29·646	48·5	37·4	43·0	+5·2	55·0	19	29·0	13, 28	42·6	2·0	·231	85
		Mar.	29·397	46·5	35·3	40·9	+1·3	54·5	31	28·0	2, 14	40·9	1·7	·220	87
HELENSBURGH, (Dumbarton.) J. R. Wilson, Waterworks.	18	Jan.	...	41·4	32·5	37·0	−1·9	50·3	26	17·2	14	36·9	1·5	·191	88
		Feb.	...	48·8	39·2	44·0	+5·3	53·3	23	29·0	28	43·5	1·4	·251	88
		Mar.	...	47·3	36·8	42·0	+1·6	53·5	26	29·5	8	41·6	1·8	·226	86
DUMBARTON, (Dumbarton.) William Denny and Brothers.	27	Jan.	29·740	41·3	33·2	37·3	−1·9	50·9	26	16·0	14	37·5	1·6	·193	86
		Feb.	29·761	49·0	39·9	44·5	+5·3	53·1	8	32·5	28	44·8	2·0	·239	81
		Mar.	29·506	47·5	37·0	42·2	+1·2	53·7	26	29·0	14	42·0	2·2	·221	84
LOCHBUIE, (Argyll.) J. T. Mannary, Gardener to the Maclaine of Lochbuie.	20	Jan.	29·721	43·1	35·4	39·2	−1·4	51·2	26	24·5	12	39·5	1·5	·212	88
		Feb.	29·736	48·1	39·2	43·7	+4·9	54·0	20	31·0	28	43·7	1·8	·246	86
		Mar.	29·471	46·2	36·8	41·5	+0·5	54·5	22	31·5	14	41·5	1·9	·223	86
AIRDS, (Argyll.) Colonel Macfie, C.B., and Alexander M'Lachlan.	15	Jan.	29·719	44·0	34·8	39·4	−1·1	55·0	31	23·0	14	39·7	1·4	·216	88
		Feb.	29·725	49·5	39·2	44·4	+4·3	57·0	19	31·0	28	44·0	2·0	·244	84
		Mar.	29·478	47·9	36·6	42·2	+1·1	55·0	18, 20	29·0	2	42·4	1·7	·235	87
POLTALLOCH, Lochgilphead, (Argyll.) D. S. Melville, Gardener	135	Jan.	29·598	43·2	33·3	38·2	−0·8	52·0	26, 27	20·0	12	37·9	1·9	·191	84
		Feb.	29·623	49·6	38·2	43·9	+4·9	55·0	20	32·0	28	42·9	2·2	·230	86
		Mar.	29·362	47·5	36·6	42·0	+1·7	54·0	22	30·0	14, 15	41·0	2·4	·208	81
ROTHESAY, (Isle of Bute.) James Kay.	116	Jan.	29·636	42·3	34·2	38·2	−1·0	53·8	26	22·6	12	37·4	1·8	·189	85
		Feb.	29·673	48·6	38·5	43·5	+3·9	55·5	19	31·5	28	43·1	2·1	·233	83
		Mar.	29·416	47·3	36·9	42·1	+1·5	54·0	31	31·5	14	40·6	1·8	·216	86
GREENOCK, (Renfrew.) Daniel Macalister, C.E., Waterworks.	238	Jan.	29·527	41·5	33·0	37·3	−1·3	51·5	26	20·0	15	37·8	1·8	·192	85
		Feb.	29·541	48·6	38·8	43·7	+5·0	53·7	11	32·2	24	44·1	2·1	·243	88
		Mar.	29·281	46·9	36·2	41·6	+1·5	50·4	20	32·2	2, 8	41·6	2·0	·222	85
PAISLEY, (Renfrew.) Donald Maclean, The Coats Observatory.	107	Jan.	29·665	41·2	33·8	37·5	−1·3	52·9	26	16·4	13, 14	37·2	1·8	·187	84
		Feb.	29·686	48·6	39·6	44·1	+5·3	54·2	19	33·0	28	44·2	2·1	·244	84
		Mar.	29·420	48·3	37·6	42·9	+2·9	57·3	31	31·9	14	42·1	2·4	·219	82
BOWHILL, (Ayr.) Alexander Gillespie, C.E.	978	Jan.	28·705	37·0	28·7	32·8	−1·0	48·0	26	14·0	16	34·3	1·1	·176	88
		Feb.	28·761	44·5	34·7	39·6	+4·4	51·0	8, 9	24·0	28	40·1	1·4	·219	89
		Mar.	28·506	43·1	33·2	38·1	+2·0	49·0	22, 23	26·0	14, 28	38·0	1·3	·203	89
GLASGOW, Belvidere Hosp., (Lanark.) Dr John Brownlee.	54	Jan.	29·718	42·0	32·5	37·3	−1·6	53·5	26	15·0	14	37·6	1·6	·194	86
		Feb.	29·745	49·6	39·8	44·7	+5·3	56·6	5	32·8	28	44·7	2·2	·247	84
		Mar.	29·489	48·5	36·9	42·7	+1·8	56·8	21	31·0	2	41·7	2·1	·221	85
GLASGOW, Observatory, (Lanark.) Prof. Becker, F.R.S.E.	184	Jan.	29·569	40·6	34·0	37·3	−1·1	51·8	26	17·9	13	37·2	1·6	·192	86
		Feb.	29·602	47·8	39·3	43·6	+4·6	53·3	19	33·3	1, 23	43·3	2·0	·237	84
		Mar.	29·342	46·3	37·4	41·8	+1·5	53·7	25	32·1	2	41·2	2·0	·217	85
BOTHWELL, (Lanark.) Dr John T. Wilson.	...	Jan.	...	40·3	31·8	36·0	...	51·0	26	18·4	13	35·8	1·4	·185	88
		Feb.	...	47·9	38·2	43·1	...	53·6	19	29·4	15	43·2	2·0	·236	85
		Mar.	...	47·4	35·9	41·6	...	56·0	22	28·0	14	41·0	2·1	·213	83
LEADHILLS, (Lanark.) James M'Farlane.	1300	Jan.	...	34·5	28·1	31·3	...	39·1	26	15·0	12	31·4	0·8	·158	86
		Feb.	...	41·2	33·8	37·5	...	47·1	12	25·0	2, 28	37·8	1·4	·200	89
		Mar.	...	39·1	31·2	35·2	...	44·1	31	25·0	3	35·3	1·5	·178	89

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
6·3	15	2·90	+0·47	0·52	7	...	...	...	2	9	...	8	12	0	12	2	2	4	20	2	8	2·6
6·5	16	4·27	+2·29	1·30	8	...	...	...	1	7	...	...	...	...	...	...	...	...	...	...	...	...
5·1	20	3·06	+1·20	0·39	30	...	...	...	0	3	...	1	10	0	9	1	1	4	26	11	0	3·1
5·0	23	11·05	+5·38	2·41	29	2	0	0	6	5	1	8	0	4	8	2	2	20	12	4	10	2·8
5·8	26	10·20	+5·54	2·38	7	5	3	2	3	7	0	6	0	0	2	5	2	17	24	5	1	3·5
5·7	31	10·25	+6·78	1·10	22	6	2	0	5	8	0	10	0	0	5	2	6	17	26	6	0	3·5
...	20	8·91	+3·99	1·27	29	...	...	...	...	...	...	...	4	2	10	8	14	6	10	8	0	...
...	21	8·55	+4·53	2·00	7	...	...	...	...	...	...	...	2	0	2	0	4	6	30	12	0	...
...	31	8·87	+5·47	1·13	22	...	...	...	...	...	...	...	4	0	4	2	14	14	14	10	0	...
...	21	8·94	+3·57	1·86	9	...	...	...	...	...	...	...	2	2	2	6	8	4	14	0	24	1·7
...	18	9·15	+4·92	2·08	8	...	...	...	...	...	...	...	0	0	0	0	16	10	20	2	8	1·9
...	30	8·86	+5·45	1·02	16	...	...	...	...	...	...	...	0	0	4	2	18	8	12	4	14	1·5
...	20	9·52	...	1·82	9	3	1	1	...	...	0	5	8	12	4	10	6	18	4	0	0	5·2
...	23	10·54	...	1·25	8	2	1	1	...	...	0	7	2	4	0	2	12	18	12	6	0	3·8
...	27	10·14	...	0·77	1, 17	2	6	0	5	12	0	7	6	0	4	4	14	20	12	2	0	3·8
8·0	13	6·50	...	...	...	...	...	...	4	20	...	...	2	0	12	12	12	10	14	0	0	...
8·9	19	6·70	...	...	...	...	...	...	1	22	...	...	11	1	0	1	13	11	18	1	0	...
8·7	28	7·48	...	...	...	...	...	...	0	22	...	...	3	0	2	4	20	12	21	0	0	...
7·4	18	5·31	+0·04	0·79	9	2	1	1	3	13	0	3	3	6	1	5	4	15	12	2	14	2·9
8·2	17	5·51	+1·45	0·81	7	3	2	2	0	22	0	4	3	1	0	0	8	25	4	6	9	3·7
7·9	25	4·21	+0·57	0·71	16	5	0	2	1	14	0	3	3	0	0	8	14	16	4	7	10	2·8
6·6	22	6·27	+1·33	1·22	9	3	0	2	4	12	3	5	0	10	2	8	8	14	10	6	4	2·9
7·7	22	5·72	+2·07	1·22	7	2	0	0	2	19	0	7	1	1	2	2	10	18	15	6	1	2·9
7·8	29	6·11	+2·81	1·00	22	4	2	0	1	8	0	2	2	1	1	5	14	22	10	2	5	2·6
8·2	22	11·34	+3·44	1·77	9	3	1	0	...	...	0	8	0	0	8	18	0	22	14	0	0	3·8
8·4	23	12·10	+5·83	2·87	7	3	4	2	0	16	0	7	0	0	0	2	1	16	32	4	1	4·5
7·9	31	12·56	+8·07	1·77	22	5	4	0	0	11	0	3	0	2	0	9	0	22	24	5	0	3·6
6·0	25	9·59	+4·86	1·68	29	3	0	0	2	16	10	5	6	6	6	2	18	4	8	2	10	2·5
7·8	23	9·23	+5·62	2·48	8	2	7	2	2	16	3	6	1	1	0	5	20	16	9	2	2	3·5
...	30	9·02	+6·46	0·97	22	7	4	0	...	...	0	6	1	4	1	6	24	16	6	2	2	3·7
6·9	18	4·09	...	0·97	10	...	...	...	0	0	...	...	4	0	8	10	14	14	12	0	0	...
7·3	21	4·40	...	0·90	8	...	...	...	0	0	...	...	2	0	0	1	14	17	20	2	0	...
7·5	28	5·62	...	0·86	23	...	...	...	0	5	...	...	5	0	5	7	15	17	11	2	0	...
7·1	20	6·80	+3·20	...	...	...	...	...	1	15	...	4	6	2	24	2	0	0	14	4	10	2·2
6·2	21	6·24	+3·39	...	...	...	...	...	1	17	3	3	1	1	25	0	0	1	26	1	1	2·2
5·6	29	7·19	+4·85	0·75	12	4	2	0	4	7	6	2	4	4	27	1	2	0	14	7	3	2·1
7·7	21	7·36	+3·79	1·28	9	2	2	0	1	16	2	1	4	2	16	4	4	16	8	0	8	1·5
8·5	19	6·33	+3·29	1·77	8	3	3	2	0	20	0	4	0	0	3	1	5	30	12	1	4	1·7
8·2	30	6·83	+4·43	0·80	22	5	5	1	0	17	1	2	0	1	4	2	10	29	6	2	8	1·4
...	18	8·05	+5·28	1·70	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	21	6·91	+4·74	1·98	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	26	7·70	+5·90	0·98	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	17	7·00	...	1·87	26	2	0	0	...	...	0	8	...	...	...	...	...	...	...	...	...	...
...	26	14·03	...	2·03	24	5	0	0	...	...	0	9	...	...	...	...	...	...	...	...	...	...
...	29	16·49	...	2·59	17, 24	17	0	0	...	...	0	11	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A.	B.										
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Maximum.	Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.												%
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. Copeland, F.R.S.E.	441	Jan.	29·288	41·4	33·3	37·3	−0·1	53·5	26	21·6	15	37·1	1·5	·192	87
		Feb.	29·320	48·0	37·8	42·9	+4·2	54·5	19	31·3	2	42·8	2·4	·225	82
		Mar.	29·069	46·9	37·0	41·9	+2·2	54·5	22	30·7	2, 15	41·0	2·5	·206	81
CORSTORPHINE, (Edinburgh.) Dr T. N. Johnston.	165	Jan.	29·594	41·4	32·4	36·9	−0·2	53·2	26	15·9	14	36·4	1·5	·187	87
		Feb.	29·619	48·5	37·2	42·8	+4·1	56·1	19	25·0	24	42·5	2·2	·226	83
		Mar.	29·374	48·4	35·9	42·1	+1·5	57·8	20	25·8	1	41·3	2·3	·213	82
LEITH, (Edinburgh.) James Bolam, Navigation School, and George Redpath.	76	Jan.	29·684	41·9	35·3	38·6	−0·2	54·7	26	22·1	15	38·5	2·1	·193	82
		Feb.	29·707	49·4	39·8	44·6	+4·3	56·7	19	33·1	1, 13	44·2	2·8	·230	79
		Mar.	29·465	48·5	38·5	43·5	+1·9	57·0	25	33·0	2, 7	43·0	3·0	·215	78
DALKEITH, (Edinburgh.) J. Whytock, Gardener to the Duke of Buccleuch.	190	Jan.	29·567	41·1	32·5	36·8	−0·5	52·0	25, 26	15·0	15	37·6	1·4	·200	90
		Feb.	29·596	48·9	37·9	43·4	+5·4	55·0	19	30·0	13	43·1	2·3	·229	82
		Mar.	29·346	48·6	36·6	42·6	+2·0	57·0	22	29·0	15	42·3	2·3	·222	83
SMEATON, (Haddington.) John Black, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Jan.	29·659	42·3	31·9	37·1	−0·5	53·5	25, 26	17·5	14	36·7	1·5	·189	87
		Feb.	29·680	49·0	35·9	42·4	+4·2	56·5	8	27·5	16	41·2	2·1	·215	84
		Mar.	29·446	49·1	36·1	42·6	+1·7	58·0	22	28·0	8	42·0	2·5	·216	82
DUNBAR, (Haddington.) R. Masterton.	58	Jan.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Feb.	29·739	49·6	36·8	43·2	...	57·5	10, 28	29·0	13	42·7	2·3	·226	83
		Mar.	29·496	49·3	35·8	42·5	...	58·0	23	29·0	17	42·4	2·4	·221	82
MARCHMONT, (Berwick.) John A. Wood, Gardener.	500	Jan.	29·240	41·4	31·7	36·6	−0·1	51·0	30	20·0	14	36·3	1·3	·190	89
		Feb.	29·271	46·8	37·0	41·9	+4·3	54·0	9	30·0	2, 28	41·7	2·0	·223	86
		Mar.	29·034	47·0	34·2	40·6	+1·8	54·0	25	30·0	2, 15	40·7	2·0	·213	85
DUNS CASTLE, (Berwick.) Robert Aikman, Gardener to R. Mordaunt Hay.	500	Jan.	29·236	41·9	32·2	37·0	+0·2	52·4	30	21·6	14	36·7	1·7	·185	85
		Feb.	29·265	47·5	35·9	41·7	+3·8	55·2	7	28·0	28	42·2	2·0	·227	85
		Mar.	29·029	47·7	35·1	41·4	+2·3	55·0	25, 28	28·0	4	41·7	2·5	·213	82
STOBO CASTLE, (Peebles.) William Young, Gardener to Sir G. G. Montgomery, Bart.	600	Jan.	29·117	41·6	30·3	36·0	−0·6	52·5	26	4·5	13	35·2	1·8	·171	83
		Feb.	29·173	48·0	36·0	42·0	+5·2	56·5	7, 8	26·0	18	42·7	1·9	·234	86
		Mar.	28·926	46·8	34·8	40·8	+2·0	53·5	25, 31	28·0	7	41·0	2·1	·213	83
BROOMLANDS, (Roxburgh.) James Brunton.	205	Jan.	29·565	42·0	31·9	36·9	−0·2	53·0	25, 26	17·5	14	36·5	1·5	·187	87
		Feb.	29·597	49·2	37·0	43·1	+5·1	54·0	8, 21	27·0	16	42·7	2·2	·228	84
		Mar.	29·352	48·0	36·5	42·2	+2·6	57·0	25	29·0	7	42·1	2·4	·219	82
WOLFELEE, (Roxburgh.) William Gordon, Gardener to J. T. S. Elliot.	537	Jan.	29·188	39·9	29·6	34·8	−0·7	49·0	25, 26	10·0	14	34·6	1·6	·169	84
		Feb.	29·230	46·5	36·0	41·2	+4·7	52·0	8, 9	25·0	13	40·9	1·6	·222	87
		Mar.	28·985	46·7	34·3	40·5	+2·2	53·0	31	27·0	14	39·7	1·8	·209	85
DRUMLANRIG, (Dumfries.) David Inglis, Gardener to the Duke of Buccleuch.	191	Jan.	29·579	41·7	31·2	36·5	−1·1	51·4	26	18·0	14	...	...	...	...
		Feb.	29·626	48·2	37·2	42·7	+4·7	53·4	8, 10	25·0	28	...	...	...	...
		Mar.	29·369	48·2	35·5	41·8	+2·2	55·4	31	28·0	8	...	...	...	...
DUMFRIES, (Dumfries. Rev. William Andson.	60	Jan.	29·728	41·9	33·1	37·5	−0·7	51·0	25, 26	17·0	14	37·5	1·5	·195	87
		Feb.	29·801	48·5	39·6	44·1	+5·0	54·7	9	29·0	28	44·0	1·7	·200	86
		Mar.	29·529	48·6	37·4	43·0	+2·0	57·0	31	30·8	10	42·6	1·8	·235	87
CARGEN, (Kirkcudbright.) Alex. Peacock, Gardener to Colonel Dudgeon.	85	Jan.	29·701	42·1	33·3	37·7	−0·5	51·0	26	18·0	14	37·4	1·4	·196	88
		Feb.	29·771	48·4	39·6	44·0	+4·9	53·0	3, 9	29·0	28	43·7	1·7	·247	86
		Mar.	29·499	48·0	37·9	42·9	+2·3	55·0	31	32·0	4, 10	42·8	1·8	·23	86

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
5·1	22	3·96	+2·06	1·15	9	2	0	0	4	6	0	4	2	2	6	8	16	18	8	2	0	4·0
5·8	17	3·99	+2·34	1·43	8	1	0	0	2	4	0	8	0	0	4	0	10	26	12	3	1	5·0
6·3	28	4·10	+2·65	0·48	22	2	0	0	1	7	4	7	0	0	2	3	24	15	15	2	1	4·7
5·0	22	4·33	...	1·58	9	2	0	0	6	6	1	2	10	2	10	0	0	2	28	0	10	2·1
5·0	19	4·41	...	1·49	8	1	0	0	5	4	0	6	3	1	2	0	0	8	38	0	4	3·3
...	29	4·77	...	0·63	22	3	0	0	...	...	0	2	3	0	3	0	3	13	28	5	7	2·8
5·9	18	3·83	+1·83	1·34	9	1	0	0	6	12	2	3	2	2	6	12	4	12	18	2	4	3·4
6·5	17	4·08	+2·34	1·61	8	0	0	0	1	9	0	4	0	3	2	2	2	11	35	1	0	4·2
6·3	26	3·47	+1·87	0·57	23	4	2	0	4	8	0	1	0	1	4	4	6	14	31	2	0	3·8
...	...	3·10	+1·32	...	...	1	0	0	...	...	0	6	0	4	0	10	4	38	2	4	0	...
...	...	3·60	+1·93	...	...	2	0	0	...	...	0	5	0	0	4	3	35	7	7	0	0	...
...	...	2·20	+0·54	...	...	3	0	0	...	...	0	3	0	2	1	10	3	34	9	3	0	...
4·7	15	2·77	+0·95	1·12	9	2	0	0	1	0	0	6	6	0	8	10	10	18	8	2	0	...
5·0	15	4·17	+2·67	1·75	8	1	0	0	0	0	1	9	0	2	2	4	4	26	10	8	0	...
4·8	17	1·75	+0·20	0·36	20	3	0	1	2	0	0	3	0	3	5	1	3	36	8	6	0	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4·9	10	3·55	...	1·33	9	...	...	...	0	2	...	...	0	2	3	1	0	22	25	3	0	...
4·9	13	1·17	...	0·25	20	...	...	..	1	1	...	...	2	0	6	0	0	15	37	2	0	...
6·4	15	3·55	+0·95	1·02	9	2	0	0	4	14	1	13	6	2	2	10	6	14	16	6	0	5·5
6·5	18	3·71	+1·35	1·26	8	...	...	...	1	8	0	9	0	2	5	1	4	15	27	2	0	4·7
5·7	20	2·53	+0·08	0·44	19	0	2	2	8	11	0	4	1	0	4	2	2	25	26	2	0	4·5
7·3	15	3·57	+1·07	0·74	9	...	...	...	0	16	...	10	14	0	0	0	22	6	20	0	0	5·3
7·7	12	3·80	+1·08	1·06	8	...	...	...	0	13	...	6	2	0	0	0	5	21	27	1	0	4·5
6·8	16	2·86	+0·07	0·60	19	...	...	...	1	11	...	4	5	0	1	0	16	29	11	0	0	6·2
...	15	5·60	+1·42	...	...	3	0	0	...	...	...	10	10	6	2	8	2	18	14	2	0	...
...	21	6·70	+3·78	...	...	1	0	0	...	..	...	11	13	1	1	0	0	15	15	11	0	...
...	22	8·50	+6·05	...	...	6	2	0	...	...	...	10	1	0	6	1	1	34	18	1	0	...
4·7	18	3·28	+1·28	1·02	9	1	0	0	1	7	2	...	0	0	2	2	4	6	28	4	12	...
5·3	16	2·77	+1·01	1·48	8	0	1	0	1	3	0	2	1	0	1	0	0	7	44	0	3	1·6
5·1	21	1·81	−0·09	0·29	19	0	0	2	2	3	0	0	0	0	2	4	0	15	36	1	4	1·4
6·1	18	7·43	+3·30	0·98	27	2	0	0	1	7	0	4	0	6	0	2	6	4	42	2	0	2·9
6·7	17	7·82	+4·79	2·09	8	4	1	0	1	12	0	5	0	1	1	2	3	11	36	2	0	4·4
6·2	27	9·42	+6·56	1·21	23	2	0	1	4	12	0	3	0	0	0	6	2	13	41	0	0	3·6
...	20	5·82	+0·53	0·83	5	2	0	0	...	...	...	...	10	0	0	10	4	21	9	8	0	...
...	25	7·00	+2·85	1·22	7	1	0	0	...	...	...	...	0	0	0	0	6	23	7	20	0	...
...	31	10·07	+7·16	1·33	22	1	0	0	...	...	...	...	0	0	0	5	7	31	7	12	0	...
...	19	5·44	+1·89	1·29	9	0	0	0	...	...	3	4	4	4	8	6	4	18	14	2	2	2·6
...	23	4·88	+1·88	0·97	24	3	3	1	...	...	0	3	0	2	1	2	4	28	13	5	1	3·2
...	31	7·46	+5·07	0·89	19	1	2	0	...	...	0	1	0	2	3	5	6	27	13	6	0	3·1
5·8	17	6·24	+1·44	1·32	9	1	0	0	4	10	0	1	12	3	12	3	0	10	17	5	0	2·8
7·4	18	5·70	+1·31	1·18	24	2	0	0	0	11	0	1	2	2	1	1	6	9	19	16	0	3·3
6·2	28	10·15	+7·14	1·22	19	1	0	0	1	6	0	3	2	2	2	2	2	18	28	6	0	3·7

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of			Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.	Mean of A and B.		Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.	°	°	°	°	°		°		°	°	inch.	%
CALLY (Kirkcudbright.) **Wm. Thomson**, Gardener to H. G. Murray Stewart of Broughton.	120	Jan.	29·671	41·9	33·9	37·9	−0·8	50·4	26	20·0	14	37·2	1·2	·200	90
		Feb.	29·749	48·4	39·0	43·7	+4·7	53·2	9	26·2	28	43·3	1·6	·242	88
		Mar.	29·449	49·1	37·3	43·2	+2·6	54·2	10	30·6	10	42·2	1·7	·233	88
BEN NEVIS OBSERVATORY, (Inverness.) R. T. **Omond**, F.R.S.E. and **Angus Rankin**.	4407	Jan.	25·099	25·8	17·2	21·5	−2·6	35·7	26	7·7	10	22·6	0·1	·118	97
		Feb.	25·148	31·1	24·1	27·6	+3·7	42·3	9	17·0	1	27·0	0·0	·147	100
		Mar.	24·915	27·9	21·9	24·9	+0·8	37·0	21	14·9	3	24·6	0·0	·133	100

RECORD OF SUNSHINE.

STATIONS.	1903.	SUNSHINE.		
	Months.	Total Observed.	Difference from Average.	Per centage of Possible.
		hours.	hours.	%
DEERNESS, (Orkney.)	Jan.	25·3	− 2·2	12
	Feb.	33·6	−22·7	13
	Mar.	96·6	−11·7	27
FORT AUGUSTUS, (Inverness.)	Jan.	28·1	+ 6·9	10
	Feb.	13·0	−28·7	5
	Mar.	51·0	−26·1	14
FORT WILLIAM, (Inverness.)	Jan.	21·8	− 3·2	10
	Feb.	10·3	−42·9	4
	Mar.	39·3	−56·7	11
BALRUDDERY, (Forfar.)	Jan.	37·5	...	16
	Feb.	27·8	...	11
	Mar.	87·3	...	24
PAISLEY, (Renfrew.)	Jan.	25·7	− 8·9	11
	Feb.	28·0	−24·2	10
	Mar.	81·7	−42·6	22
GLASGOW, (Lanark.)	Jan.	7·5	−16·7	3
	Feb.	19·7	−24·5	7
	Mar.	75·9	−10·9	21
EDINBURGH, (Edinburgh.)	Jan.	43·4	...	18
	Feb.	43·6	...	16
	Mar.	115·2	...	32
MARCHMONT, (Berwick.)	Jan.	36·8	− 4·2	16
	Feb.	34·8	−34·3	13
	Mar.	92·5	−12·8	25
BEN NEVIS OBSERVATORY, (Inverness.)	Jan.	15·8	− 7·2	6·9
	Feb.	4·9	−37·1	1·9
	Mar.	10·8	−44·2	3·0

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
...	16	5·92	+ 1·02	1·63	9	4	0	0	...	...	0	4	4	10	2	16	2	8	2	18	0	2·0
...	25	6·50	+ 2·39	0·59	26	1	2	1	...	...	0	7	3	5	0	10	0	13	7	18	0	3·1
...	30	6·53	+ 3·18	1·07	12	1	3	0	...	...	0	3	2	7	2	20	3	12	3	13	0	2·0
8·8	22	33·45	+15·12	4·78	29	21	7	0	1	27	27	6	10	4	0	12	14	2	8	12	0	3·02
9·8	27	36·24	+22·70	3·82	9	20	4	0	0	26	28	3	16	0	0	2	8	10	8	10	2	2·40
9·5	28	37·96	+23·47	4·00	22	27	14	0	1	30	30	3	8	4	0	8	4	10	14	14	0	2·52

UNDERGROUND TEMPERATURE.

STATIONS.		1903. Months.	UNDERGROUND TEMPERATURE. Depth in Inches. 3	12	22	36	48
			°	°	°	°	°
DUNROBIN,	(Sutherland.)	Jan.	36·1	36·9	37·2	...	...
		Feb.	40·4	41·4	41·1	...	...
		Mar.	39·9	41·3	41·2	...	...
HADDO HOUSE,	(Aberdeen.)	Jan.	36·0	35·5	36·3	...	...
		Feb.	36·5	37·2	37·3	...	...
		Mar.	38·2	38·5	38·5	...	...
ARBROATH,	(Forfar.)	Jan.	36·8	36·3	37·7	...	...
		Feb.	39·7	39·5	40·1	...	...
		Mar.	39·2	39·0	39·5	...	..
OCHTERTYRE,	(Perth.)	Jan.	35·1	36·9	37·8	40·0	41·4
		Feb.	40·1	41·1	41·1	41·2	41·6
		Mar.	39·5	40·9	41·3	41·3	41·7
POLTALLOCH,	(Argyll.)	Jan.	36·6	37·8	37·0	...	...
		Feb.	42·1	43·0	41·8	...	...
		Mar.	40·6	41·3	40·6	...	...
PAISLEY,	(Renfrew.)	Jan.	37·1	37·4	39·9	...	...
		Feb.	42·9	42·8	43·7	...	...
		Mar.	41·0	41·1	42·8	...	...
CORSTORPHINE,	(Edinburgh.)	Jan.	34·8	35·9	36·9	...	...
		Feb.	40·6	40·9	40·5	...	...
		Mar.	39·7	40·6	40·6	...	...
SMEATON,	(Haddington.)	Jan.	35·3	35·6	36·2	...	...
		Feb.	39·8	40·2	39·0	...	...
		Mar.	39·7	40·1	40·0	...	..
MARCHMONT,	(Berwick.)	Jan.	35·2	35·8	37·4	...	...
		Feb.	39·6	40·3	41·2	...	...
		Mar.	38·9	39·4	40·5	...	...

Continuation of page 137.]

mean was 42°·3, no February temperature so high has been recorded at least since 1856. Several places in the South had a mean temperature fully 5° above the averages, whilst in Orkney the excess was slightly above 2°, and at North Unst and Monach about 1°. The warmest day of the month was at most places the 19th except in the South where it was generally the 9th. The coldest days of the month were the 1st, 13th, and 28th; but very little frost was reported and at some stations the sheltered minimum did not fall to 32°. The absolutely highest temperature was 59°·0 at Gordon Castle on the 19th, and the lowest 22°·8 at Lednathie on the 26th.

The mean rainfall was 6·10 inches, or double the average, being the heaviest February rainfall on record except that of 1894 when the mean amount was 7·05 inches. In Aberdeenshire the amount hardly exceeded the average, but in all other parts of the country there was a remarkable excess which was at few places less than 60 per cent., at many more than 100 per cent., and at a few more than 150 per cent. At Fort-William the daily amount was an inch or more on 8 days, and the total for the month was 16·46 inches. A great storm of snow, sleet and rain occurred everywhere on the 8th, and in the West on the 7th also. Thus at Greenock the total for these two days was 5·35 inches, at Paisley 4·80 inches, whilst at Leadhills the total for the first nine days of the month was 6·69 inches. Destructive floods were general throughout the country and on the 10th the river Clyde burst its banks at Rutherglen. During the last ten days of the month also heavy rains occurred, 8·57 inches being recorded at Fort-William from the 19th to 28th inclusive, and 7·67 inches at Glencarron. On Ben Nevis the total rainfall was 36·24 inches, being 22·70 inches above the average of nineteen years.

On the 1st and 8th snow fell at many places and from the 21st to 28th storms of hail and snow accompanied by lightning and occasional thunder were frequent in the West.

The month was characterized by frequent gales from the S.W. These were in most districts almost continuous from the 19th onwards, a very destructive gale on the 27th being of unusual severity.

Between the 20th and 25th thunder was occasionally reported in the North and West.

MARCH 1903—

Hence the weather of MARCH 1903 was characterized by an exceedingly low mean barometric pressure; a somewhat high mean temperature, with a slightly low mean daily range; a mean humidity slightly below the average; a mean rainfall more than twice the average, and falling on ten days more than the average number; a mean wind force above the average, with a remarkable excess of winds from between S. and W.

The mean barometric pressure was 29·512 inches, or 0·310 inch below the average. This is the lowest mean pressure recorded for March since 1876, when the mean for the month was 29·394 inches. The month, like February, was characterized by a succession of cyclonic disturbances, which passed rapidly Northwards just off the West coast of Scotland and caused stormy weather throughout the entire month. A well-defined gradient was formed for winds from a S.W. quarter which prevailed on no less than 9 days more than the average number. At Leith the barometer, at sea-level, rose above 30 inches on only the 8th, 14th and 31st, the extremes there being 30·205 inches on the 8th, and 28·629 inches on the 2nd.

The mean temperature was 41°·1, or 1°·7 above the average, the days being 1°·3 and the nights 2°·0 above their respective averages. In the Southern counties the excess was generally more than 2°, whilst in few parts of the country was it less than 1°. During the first week of the month temperature was somewhat below the average, but thereafter it remained continuously above, the maximum generally being registered on the 22nd, 25th, or 31st. At Greenock, Glasgow Observatory, and Leith the sheltered minimum did not fall to 32°. The absolutely highest temperature was 57°·8 at Corstorphine on the 20th, the lowest being 22°·0 at Kingussie and at Lednathie on the 7th.

The mean rainfall was 5·96 inches, or 110 per cent. above the average, being considerably the largest March rainfall on record since observations were organized in 1856. In 1861 and 1876 the mean was 5·10 inches and in only five other years has the mean exceeded 4 inches. The number of rainy days was as notable as the abnormally heavy rainfall. At Dumfries, Greenock and a few other places rain fell on every day of the month, and only at a few places, and these all on the East coast, was rain recorded on fewer than 20 days. In the extreme South-East of the country the rainfall was about the average, in a great part of Aberdeenshire and in Banffshire there was a well marked deficiency, and in the Eastern half of Sutherlandshire the amount was either a little above or a little below the normal. In all other parts there was a very large excess, the amounts being usually much more than twice, and at several places considerably more than thrice the average. The heaviest rainfalls were, in inches, 20·99 at Glenquoich, 18·31 at Stronvar, 16·49 at Leadhills, 15·90 at Fort-William, and 12·56 at Greenock. On Ben Nevis the total rainfall was 37·96 inches, being 23·47 inches above the average of nineteen years.

Snow in small amounts was general during the first six days and also during the last week of the month. Hail was very frequent, and thunder was reported from a few places on the 4th, 5th or 26th. The month was characterized by very high winds from the S.W., frequently reaching gale force during the latter half of the month.

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 30th JUNE 1903.

By Dr Buchan, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 60 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE – 56° 33′ N. ; MEAN LONGITUDE – 3° 45′ W. ; AND MEAN ELEVATION –279 Feet.

1903.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
Apr.	29·832	48·7	34·2	41·4	61·5	16·0	41·2	2·6	·207	80	15	1·92	6·3	*
May	29·873	56·5	41·2	48·9	79·7	20·0	48·4	3·1	·267	79	14	2·09	6·7	*
June	30·096	61·7	45·3	53·5	82·0	26·5	53·2	3·4	·315	78	12	2·02	6·6	*

1903.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS										Thunder heard.	
	3 Inches	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
Apr.	42·3	43·2	43·4	43·2	43·2	9	5	7	6	3	5	9	13	3	2·6	19	1
May	49·6	49·2	48·1	46·0	45·6	6	9	14	6	4	8	8	4	3	2·3	5	1
June	56·2	56·3	55·3	51·4	50·4	6	9	13	6	4	6	8	5	3	2·2	24	2

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these results are compared with the averages of 1856–1900, during the same months, they show the following characteristics and differences :—

APRIL 1903—
Mean Barometric Pressure, 29·832 inches ; less than the average of 1856–1900 by 0·056 inch.
Mean Temperature, 41°·4 ; less by 2°·6.
Mean Daily Range of Temperature, 14°·5 ; being the average.
Mean Humidity, 80 per cent. ; less by 1·9.
Rain, Number of Days, 15 ; greater by 2 days.
Rain, Depth in Inches, 1·92 ; less by 0·30 inch.
Wind, Mean Force (on Scale of 0–12), 2·6 ; less by 0·1.
Wind, Direction of, a 4 days' excess of winds from N.W. and N.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·3 ; being the average.

MAY 1903—
Mean Barometric Pressure, 29·873 inches ; less than the average of 1856–1900 by 0·067 inch.
Mean Temperature, 48°·9 ; less by 0°·1.
Mean Daily Range of Temperature 15°·3 : less by 0°·2.
Mean Humidity, 79 per cent. ; less by 0·8.
Rain, Number of Days, 14 ; greater by 1 day.
Rain, Depth in Inches, 2·09 ; less by 0·20 inch.
Wind, Mean Force (on Scale of 0–12), 2·3 ; less by 0·2.
Wind, Direction of, a 4 days' excess of winds from E. and N.E.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·7 ; greater by 0·5.

JUNE 1903—

Mean Barometric Pressure, 30·096 inches; greater than the average of 1856–1900 by 0·154 inch.
Mean Temperature, 53°·5; less by 1°·4.
Mean Daily Range of Temperature, 16°·4; greater by 0°·6.
Mean Humidity, 78 per cent.; less by 2·3.
Rain, Number of Days, 12; less by 1 day.
Rain, Depth in Inches, 2·02; less 0·56 inch.
Wind, Mean Force (on Scale of 0–12) 2·2; less by 0·2.
Wind, Direction of; a 6 days' excess of winds from N., N.E. and E.
Hours of Sunshine, s. p. 62.
Mean Amount of Cloud, 6·6; greater by 0·4.

APRIL 1903—

Hence the weather of APRIL 1903 was characterised by a somewhat low mean barometric pressure; a very low mean temperature, with a mean daily range equal to the average; a low mean humidity; a mean rainfall rather below the average, but falling on 2 days more than the average number; a considerable excess of winds of about average force from N.W. and N.

The mean barometric pressure was 29·832 inches, or 0·056 inch below the average. Pressure was highest about the middle of the month and lowest towards the end. The extremes at Leith being, at sea-level, 30·467 inches on the 17th and 29·345 inches on the 29th.

The mean temperature was 41°·4, or 2°·6 below the normal, the days being 2°·5 and the nights 2°·7 below their respective averages. This is the lowest temperature for April since 1891 when the mean was 41°·4, as also in 1877 and 1860, the lowest mean on record for the month being 41°·0 in 1879. The defect in temperature was everywhere well-marked and at a few places in the East and North was fully 3°·5. It was less in the West than in the East. During the first ten days of the month Westerly winds prevailed and temperature was high and rose steadily. Thereafter Northerly and then Easterly winds prevailed and were the accompaniment of a remarkable spell of cold weather lasting till nearly the end of the month with temperatures lower in some cases than any recorded since January. At very few of the reporting stations did the maximum in shade reach 60°, and frost was generally reported for a week continuously from the 12th. At Ochtertyre a minimum on grass registered frost on 20 days and on the 18th and 24th fell as low as 17°, whilst a minimum in shade gave readings below the freezing-point on every day from the 12th to 25th. At Inverness ground-frost was recorded on 21 days, at Fort-William on 16, and at Edinburgh on 17. The contrast in temperature between the week ending on the 11th and the following week was very great. Thus at Glasgow the mean temperature of the former week was 45°·6, or 2°·1 above the average, and of the latter 36°·7, or 7°·9 below. The absolute maximum was 61°·5 at Lednathie on the 9th, and the minimum 16°·0 at Stobo on the 15th.

The mean rainfall was 1·92 inches, or 14 per cent. below the average. In Shetland, Orkney, at Stornoway, in the Northern counties, in Banffshire and parts of Aberdeenshire, and at Glencarron and Glenquoich the rainfall was decidedly above the average, the excess being about 75 per cent. at Deerness, Wick and Lairg. At Fort-William and Braemar the amount was just about the average. Elsewhere there was a deficiency of varying amount, the total for the month at Arbroath, Perth, Stronvar, Dollar, Dumbarton and Stobo being less than half the average. At Fort-William no rain fell from the 13th to the 26th and at Greenock rain fell on only four days between the 7th and the 29th. Very few daily amounts exceeding an inch were reported, and the rainfall was in every way a contrast to the record of the first three months of the year. On Ben Nevis the monthly amount was 8·36 inches, or 0·31 inch above the mean of nineteen years.

Snow and hail were frequent about the middle of the month, and on the 15th a snowstorm of considerable severity was general over the country.

During the last three days of the month fog was very prevalent on East and North-East coasts. On the afternoon of the 30th a sharp thunderstorm with hail was reported at many places except in the North, and on the morning of the 18th an Aurora was noted at Glasgow.

MAY 1903—

Hence the weather of MAY 1903 was characterized by a somewhat low mean barometric pressure; a mean temperature, all but equal to the average, with a mean daily range about the average; a slightly low mean humidity; a mean rainfall a little below the average, and falling on 1 more than the average number of days; a large excess of winds of moderate force from E. and N.E.

The mean barometric pressure was 29·873 inches, or 0·067 inch below the average. Pressure was lowest at the beginning of the month and highest towards the end, the extremes at Leith being, at sea-level, 30·463 inches on the 26th and 29·281 inches on the 5th.

The mean temperature was 48°·9, or 0°·1 below the normal, the nights being of average temperature and the days 0°·2 below. The greatest deficiencies were 2°·2 at

Fort-Augustus and 1°·4 at Peterhead and Haddo House, and the greatest excesses 1°·8 at Lairg, 1°·2 at Cally and 1°·1 at Tillypronie. Nearly one half of the stations had a mean temperature within 0°·5 of the average. During the first half of the month temperature was continuously low, and on the morning of the 11th, which was in general the coldest day, frost was registered at many places, and at Glasgow and Braemar minimum thermometers exposed on grass fell to 23°·0. Very low readings were recorded also on the 19th and 20th; but thereafter temperature was almost uniformly high with maximum readings in various days during the last week of the month. The absolutely highest temperature was 79°·7 at Dumfries on the 31st, and the lowest 20°·0 at Stronvar on the 19th.

The mean rainfall was 2·09 inches, or 9 per cent. below the average. In the greater part of Aberdeenshire, in Banffshire, along the Caledonian Canal and in the South-west of Scotland there was a decided excess, amounting to 36 per cent. at Haddo House, 30 at Fort-William, 36 at Paisley and 48 at Cargen. Elsewhere there was a well-pronounced deficiency, exceeding 40 per cent. at Braemar, in Perthshire, East Lothian, Peeblesshire and Berwickshire. Rain was registered chiefly from the 1st to the 6th and from the 13th to the 17th. In the Eastern counties very little fell after the 16th, none being reported at Aberdeen after that date, though at many places there were considerable falls on the 30th. The only daily amounts exceeding an inch noted were 1·07 inch at Glencarron on the 13th and 1·20 inch at Bowhill (Dalmellington) on the 14th. On Ben Nevis the monthly amount was 6·61 inches, or 0·90 inch below the average.

Snow fell at Inverness on the 9th, at Aberdeen on the 10th, at Braemar on the 10th and 11th, and at Fort-Augustus on the 7th and 15th.

Thunder occurred in the Border counties on the 30th, and heavy fog prevailed on the Eastern and Northern coasts from the 1st to the 5th and again after the 26th.

JUNE 1903—

Hence the weather of JUNE 1903 was characterized by an extremely high mean barometric pressure; a low mean temperature, with a slightly high mean daily range; a low mean humidity; a rather low mean rainfall, falling on 1 less than the average number of days; a very large excess of winds of moderate force from a North-Easterly quarter.

The mean barometric pressure was 30·096 inches, or 0·154 inch above the average. So high a pressure for June has not been recorded since 1887, when the mean for the month was 30·174 inches. There were no great variations of pressure and Scotland was hardly affected by a series of depressions which passed across the South of England between the 9th and 19th. At Leith the barometer, at sea-level, stood below 30 inches only on the 1st, from the 15th to 19th, from 26th to 28th and on the morning of the 30th, the extremes there being 30·448 inches on the 6th, and 29·759 inches on the 18th.

The mean temperature was 53°·5, or 1°·4 below the mean, the days being 1°·1 and the nights 1°·7 below their respective averages. In Bute and Renfrewshire, and at Poltalloch and Dumbarton temperature was slightly above the average; but over the country generally there was a decided deficiency which ranged from 3°·0 at Inverness, Peterhead and Montrose, to less than 1°·0 at Bucklyvie, in the Glasgow and Edinburgh districts, and at Duns, Dumfries and Cally. A ground-frost occurred in the North and West on the 2nd, but from the 4th to the 8th high temperatures were recorded, the maximum for the month at most places being registered on the 4th. Thereafter, until the last few days of the month, when temperature was again high, persistent winds from N.E. brought very cold weather with lowest readings generally on the 20th, when the sheltered thermometer fell below 32° at several places and the exposed minimum at Braemar and Ochtertyre registered 10° of frost and at Inverness and Fort-William 8°. The mean temperature of the third week of the month was at Aberdeen 7°·0, and at Leith 6°·0, below the average of the week. The absolutely highest temperature was 82°·0 at Smeaton on the 4th, and the lowest 26°·5 at Kingussie on the 20th.

The mean rainfall was 2·02 inches, or 22 per cent. below the average. In Nairnshire and from Inverness along the Caledonian Canal as far as Invergarry there was a well-marked excess, amounting at Fort-Augustus to 28 per cent. Rainfall was also above the average in parts of the Counties of Forfar, Fife, Renfrew and Wigtown. But in general there was a decided deficiency, which exceeded 50 per cent. at Wolfelee and Poltalloch, was about 40 per cent. at Braemar and Edinburgh, and about 30 per cent. at Deerness, Dunrobin, Rothesay, Glasgow, Dumfries, Broomlands and Peterhead. The greater part of the rain fell during the last few days of the month, and at many places, there were only one or two rainy days during the first three weeks. The heaviest daily amounts were 1·42 inch at Fort-William on the 30th, and 1·40 inch at Kilmarnock on the 27th. On Ben Nevis the monthly amount was 6·44 inches, or 1·10 inch below the average.

Thunderstorms occurred at many places on the 24th, 25th and 29th, and were of great severity in Central Perthshire.

At Inverness on the 13th there were showers of hail and sleet.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.											inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	Apr.	29·487	...	...	...	...	...	...	...	...	40·1	...	...	...
		May	29·600	...	...	...	...	...	...	...	...	44·5	...	...	...
		Jun.	29·820	...	...	...	...	...	...	...	...	47·9	...	...	...
LERWICK, (Shetland.) G. ALLISON, Harbour Master.	30	Apr.	29·714	45·9	36·3	41·1	...	51·5	25, 27	28·0	18	40·8	2·5	·205	80
		May	29·814	50·2	42·0	46·1	...	56·0	26, 28	33·0	11	45·9	2·4	·256	84
		Jun.	30·042	54·4	44·7	49·6	...	60·0	26	37·0	19	49·7	2·7	·290	82
DEERNESS, (Orkney.) M. SPENCE, Schoolhouse.	172	Apr.	29·595	43·7	35·4	39·6	−2·7	49·2	30	28·0	17	39·5	1·8	·207	86
		May	29·689	50·4	41·6	46·0	−0·8	60·8	31	36·0	11	45·9	2·4	·256	84
		Jun.	29·912	54·3	45·0	49·6	−1·3	61·6	27, 28	39·0	19, 20	49·1	2·3	·293	84
KIRKWALL, (Orkney.) JAMES BEGG, S.S.C.	30	Apr.	29·754	45·2	36·2	40·7	−2·9	51·0	24	25·0	19	40·7	2·0	·213	85
		May	29·340	51·9	41·8	46·9	−1·1	63·0	23	35·0	11	47·0	2·5	·264	83
		Jun.	30·071	55·9	44·8	50·4	−2·5	66·0	30	37·0	20	51·4	3·0	·305	80
DUNROBIN, (Sutherland.) D. MELVILLE, Gardener, Dunrobin Castle.	16	Apr.	29·792	47·2	35·6	41·4	−2·9	59·0	9	30·0	14, 18	40·6	2·3	·207	82
		May	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jun.	...	...	...	...	...	...	...	...	...	...	...	...	...
LAIRG, (Sutherland.) Rev. JOHN K. MACLEAN.	390	Apr.	29·373	48·6	32·3	40·4	−3·7	57·3	25	24·0	15, 24	38·5	1·7	·209	86
		May	29·431	55·5	41·9	48·7	+0·8	73·0	27, 28	29·0	19	47·0	2·9	·255	80
		Jun.	29·666	62·2	42·4	52·3	−1·8	73·9	7	27·0	20	51·8	3·2	·453	79
GLENCARRON, (Ross.) D. D. MUNRO.	504	Apr.	29·269	46·4	33·0	39·7	−3·1	57·9	25	22·6	14	39·6	2·3	·199	81
		May	29·311	55·1	40·1	47·6	−0·2	73·5	27	33·0	19	47·5	2·8	·255	78
		Jun.	29·548	60·3	42·4	51·4	−1·6	76·4	7, 8	32·4	12	51·7	3·8	·290	75
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	Apr.	29·676	...	...	...	...	...	...	...	...	43·1	...	...	...
		May	29·692	...	...	...	...	...	...	...	...	47·5	...	...	...
		Jun.	29·928	...	...	...	...	...	...	...	...	51·6	...	...	...
KINGUSSIE, (Inverness.) Dr WALTER DE WATTEVILLE, and J. CAMPBELL.	828	Apr.	28·910	47·9	30·7	39·3	−2·3	58·2	9	19·5	24	39·1	2·6	·189	80
		May	28·974	57·0	37·6	47·3	+0·3	79·0	27	28·5	8, 19	47·4	3·1	·256	79
		Jun.	29·201	62·2	41·8	52·0	−1·9	79·9	8	26·5	20	52·4	3·6	·301	76
INVERNESS, (Inverness.) THOS. WALLACE, High School.	114	Apr.	29·702	48·7	35·7	42·2	−3·2	60·2	25	29·5	24	41·8	2·4	·217	82
		May	29·743	54·9	42·9	48·9	−0·3	67·2	31	36·6	18	48·6	2·6	·280	82
		Jun.	29·978	59·8	45·8	52·8	−3·0	70·0	4	34·0	10	52·8	3·3	·314	78
FORT AUGUSTUS, (Inverness.) Rev. CYRIL VON DICKHOFF, St Benedict's Priory.	73	Apr.	29·757	49·6	33·8	41·7	−2·8	59·9	25	25·4	24	41·4	2·8	·205	79
		May	29·783	54·5	40·9	47·7	−2·2	69·7	25	31·9	12	48·5	2·9	·268	79
		Jun.	30·013	60·1	45·3	52·7	−2·8	69·8	4	31·7	20	53·0	3·1	·320	79
FORT WILLIAM, (Inverness.) R. T. OMOND, F.R.S.E., and ANGUS RANKIN.	42	Apr.	29·805	49·6	35·0	42·3	−2·7	58·5	26	26·8	24	42·4	3·3	·205	76
		May	29·828	58·0	41·8	49·9	0·0	75·7	28	32·0	11	49·2	3·4	·270	77
		Jun.	30·049	62·3	45·8	54·0	−1·8	75·7	7, 8	32·1	20	53·7	3·7	·314	76
GORDON CASTLE, (Banff.) C. WEBSTER, Gardener to the Duke of Richmond and Gordon.	107	Apr.	29·687	48·4	34·5	41·4	−3·1	56·5	9, 30	28·0	24	41·7	3·3	·203	77
		May	29·754	56·2	41·2	48·7	−0·2	75·0	27	33·5	19	49·3	4·8	·242	69
		Jun.	29·986	61·3	44·8	53·0	−1·7	75·0	8	31·2	20	53·6	3·8	·310	76
BRAEMAR, (Aberdeen.) JAMES AITKEN, Banker.	1114	Apr.	28·611	44·6	31·0	37·8	−3·0	53·8	30	23·0	24	37·9	2·1	·188	82
		May	28·670	54·4	38·4	46·4	+0·4	72·4	26	29·2	8	46·6	3·2	·241	76
		Jun.	28·895	60·6	42·6	51·6	−1·0	73·0	8	27·8	20	51·4	3·8	·286	76
LOANHEAD, (Aberdeen.) ALEX. FARQUHARSON.	747	Apr.	28·992	46·3	32·5	39·4	−3·2	59·0	9	26·0	18	39·6	2.1	·203	83
		May	29·063	57·2	39·3	48·2	+0·9	76·6	31	31·9	11	48·2	3·1	·263	79
		Jun.	29·294	61·4	43·6	52·5	−1·2	76·0	4	33·1	20	52·9	3·3	·315	79

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
				Most in a day.																		
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Amount.	Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
7·6	15	...	...	...	...	7	1	0	2	16	1	0	16	6	7	11	2	6	6	6	0	4·6
7·4	9	...	...	...	...	0	0	0	2	15	4	0	9	8	10	5	4	10	10	5	1	4·4
7·4	7	...	...	...	...	0	0	0	2	17	6	0	10	11	8	6	5	3	10	6	1	3·9
...	20	2·62	...	0·25	8	2	0	0	...	...	0	0	18	1	9	8	5	2	7	8	2	3·9
...	9	0·82	...	0·23	15	0	0	0	...	...	8	0	7	9	8	6	13	4	9	0	6	3·7
...	11	2·37	...	0·49	26	0	0	0	...	...	8	0	10	10	9	4	8	1	9	6	3	3·6
7·1	20	3·13	+ 1·31	0·36	5, 19	11	5	0	2	14	3	2	12	0	8	9	4	4	8	15	0	3·7
7·9	8	1·29	− 0·46	0·42	2	1	0	0	1	16	8	0	11	7	8	13	5	7	5	6	0	2·7
7·7	10	1·29	− 0·55	0·25	28	0	0	1	0	16	5	0	15	6	8	9	4	1	11	6	0	2·7
...	19	3·74	+ 1·69	0·49	19	...	...	...	...	...	...	0	14	0	12	8	2	4	10	10	0	3·8
...	10	1·06	− 0·75	0·38	2	...	...	...	...	...	...	0	14	0	14	2	10	2	18	2	0	2·2
...	6	1·27	− 0·39	0·57	30	...	...	...	...	...	...	0	12	4	8	8	4	2	18	4	0	2·0
...	18	2·69	+ 0·88	0·50	6	8	1	0	...	...	1	0	8	5	13	6	3	3	7	15	0	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6·2	23	3·74	+ 1·80	0·68	27	11	0	0	5	12	3	0	9	0	12	3	0	2	1	20	13	2·0
6·1	19	2·08	− 0·12	0·62	4	2	0	0	10	12	3	0	7	1	11	4	2	0	12	4	21	2·2
6·2	14	1·63	− 0·57	0·40	27	0	0	2	3	12	0	0	6	6	5	18	0	2	8	8	7	2·3
6·6	18	7·14	+ 2·21	1·06	5	...	...	1	5	13	...	0	11	1	19	0	0	0	28	0	1	3·9
7·0	17	4·31	− 0·17	1·07	13	...	...	0	4	19	...	0	12	0	21	0	1	0	26	0	2	2·1
6·3	13	3·90	− 0·81	1·19	30	...	...	2	4	11	...	0	12	0	29	0	0	0	18	1	0	3·6
8·0	9	1·42	− 1·13	0·50	11	5	1	0	0	16	1	0	12	3	7	7	6	4	10	11	0	5·6
7·3	9	1·83	− 0·29	0·40	14	0	0	0	4	17	4	0	12	10	10	5	7	5	10	1	2	4·2
7·6	7	2·07	− 0·56	0·42	28	0	0	0	2	17	5	0	11	16	4	5	5	1	12	3	3	3·2
6·6	19	1·41	− 0·49	0·18	6	...	...	...	3	11	...	...	...	...	...	...	...	...	...	...	...	...
7·4	14	1·37	− 0·60	0·23	16	...	...	...	3	16	...	...	...	...	...	...	...	...	...	...	...	...
7·2	13	1·98	+ 0·01	0·55	28	...	...	...	3	14	...	...	...	...	...	...	...	...	...	...	...	...
8·0	16	1·76	+ 0·31	0·25	10	11	5	0	2	10	2	2	7	14	8	2	0	8	10	10	1	2·1
7·3	14	1·82	+ 0·03	0·45	16	1	1	0	2	13	1	2	3	21	10	2	0	19	3	4	0	2·0
7·7	15	1·97	+ 0·12	0·42	4	1	2	1	4	18	3	0	0	22	12	1	0	9	5	11	0	1·3
5·8	12	1·67	− 0·55	0·39	3	7	3	1	4	11	3	1	6	12	2	1	14	6	3	5	11	2·6
6·9	14	2·69	+ 0·60	0·65	16	2	1	0	2	11	4	4	6	26	0	0	13	5	0	1	11	3·7
7·8	15	2·85	+ 0·62	0·94	25	0	0	1	3	17	2	3	7	29	0	0	8	8	0	0	8	3·5
7·6	15	3·46	− 0·07	1·10	8	3	1	0	1	13	8	0	15	2	2	6	1	8	12	7	7	1·1
7·4	14	4·32	+ 0·99	0·73	16	1	0	0	4	16	5	0	15	5	1	2	5	17	2	3	12	0·9
6·5	11	3·36	− 0·34	1·42	30	0	0	1	3	11	0	0	2	21	1	0	2	14	2	1	17	1·0
7·4	23	2·27	+ 0·36	0·31	7	...	...	0	0	13	...	...	1	9	0	16	1	9	5	19	0	...
7·0	13	1·96	+ 0·21	0·62	5	...	...	0	1	13	...	...	1	11	0	12	4	15	0	19	0	...
...	16	1·64	− 0·62	0·40	5	...	...	1	2	16	...	...	2	11	0	11	2	9	5	20	0	...
6·7	22	2·29	+ 0·05	0·51	27	8	0	0	0	8	2	0	14	14	3	3	1	6	4	15	0	1·4
6·8	13	1·26	− 0·98	0·31	4	2	0	0	2	10	4	0	5	25	3	0	7	17	2	3	0	1·0
6·5	12	1·42	− 0·92	0·40	27	0	0	1	2	8	5	0	2	8	23	5	5	8	3	5	1	0·9
6·9	22	2·86	+ 0·88	1·01	27	2	1	0	3	12	0	2	0	4	5	3	0	1	10	22	15	...
6·4	12	1·94	− 0·12	0·48	4	0	0	0	4	14	0	0	7	6	5	6	0	2	9	12	15	...
7·8	13	1·33	− 0·77	0·30	28	0	0	0	0	16	0	0	5	4	0	6	2	4	2	13	24	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A.	B.										
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Maximum.	Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°								%
TILLYPRONIE, (Aberdeen.) Robt. Littlejohn, Gardener to Sir John F. Clark, Bt.	1120	Apr.	28·598	45·5	31·1	38·3	−2·6	60·0	9	24·6	18	37·2	1·8	·187	84
		May	28·671	54·5	38·2	46·3	+1·1	73·2	31	29·0	11	45·5	2·5	·248	82
		Jun.	28·889	59·3	41·7	50·5	−1·3	74·3	4	33·0	3	49·4	2·8	·285	81
ABERDEEN, (Aberdeen.) Peter Harper, Superintendent, Duthie Park.	44	Apr.	29·760	47·6	36·0	41·8	−3·0	57·5	30	28·5	25	41·6	2·4	·214	82
		May	29·832	56·8	41·2	49·0	+0·5	68·2	26	34·2	11	48·2	2·8	·270	81
		Jun.	30·060	59·3	45·4	52·3	−2·4	73·8	28	33·6	20	52·4	3·1	·319	80
HADDO HOUSE, (Aberdeen.) John Forrest, Gardener to the Earl of Aberdeen.	194	Apr.	29·598	46·7	33·9	40·3	−3·3	55·5	6, 10	25·5	19	40·1	2·3	·202	81
		May	29·682	53·6	39·8	46·7	−1·4	68·0	29	32·5	9, 23	46·1	2·7	·251	82
		Jun.	29·810	59·0	44·5	51·7	−1·9	70·0	4, 28	33·0	20	52·6	3·7	·302	76
PETERHEAD, (Aberdeen.) Dr W. H. M'Walter, H.M. Prison.	100	Apr.	29·687	45·3	35·7	40·5	−3·5	47·9	11	27·5	19	40·5	2·2	·208	82
		May	29·771	52·4	41·4	46·9	−1·4	60·7	14	36·1	11	46·3	2·4	·256	82
		Jun.	29·999	56·0	45·1	50·6	−3·4	70·5	4	37·0	19	50·5	2·6	·302	82
CRATHES, (Kincardine.) J. Smith.	145	Apr.	29·667	47·7	33·6	40·6	...	60·0	9	27·4	25	40·9	2·7	·201	80
		May	29·717	57·8	39·4	48·6	...	76·9	31	31·5	9	48·8	3·7	·259	75
		Jun.	29·945	61·0	43·7	52·4	...	73·0	4	31·8	20	52·9	4·0	·299	74
MONTROSE, (Forfar.) (Royal Asylum), Dr John G. Havelock	200	Apr.	29·602	45·9	34·6	40·2	−3·7	55·6	9	28·3	16, 18	39·7	2·4	·196	80
		May	29·659	53·9	40·3	47·1	−1·1	65·0	28	31·0	11	46·6	3·2	·245	78
		Jun.	29·885	57·4	45·0	51·2	−3·4	70·0	28	35·0	20	51·1	2·9	·303	80
ARBROATH, (Forfar.) James Campbell, "For the Natural History Assoc. of Arbroath."	68	Apr.	29·752	48·3	35·5	41·9	−2·6	57·0	6, 9	27·0	18	41·8	2·4	·217	82
		May	29·812	54·3	41·5	47·9	−0·9	67·0	28	32·0	11	48·1	2·9	·266	79
		Jun.	30·027	58·4	45·2	51·8	−2·8	72·0	28	35·0	20	52·5	3·2	·312	79
DUNDEE, Eastern Necropolis, (Forfar.) J. Carnochan, Curator.	164	Apr.	29·646	48·6	34·6	41·6	−3·3	57·7	30	28·1	17	41·2	2·3	·212	82
		May	29·697	57·0	41·4	49·2	−0·1	70·2	25	32·2	11	48·9	3·1	·274	80
		Jun.	29·923	61·8	45·6	53·7	−2·1	77·7	4	36·5	14	53·2	2·8	·330	80
DUNDEE, Harbour, (Forfar.) J. Thomson, Jr., Harbour Trust.	20	Apr.	29·817	51·0	36·6	43·8	−2·5	61·5	9	30·7	17	42·9	2·2	·230	84
		May	29·861	58·0	43·1	50·5	+0·2	71·2	31	35·2	11	49·6	2·6	·291	83
		Jun.	30·084	63·8	47·2	55·5	−1·3	74·5	4	39·0	20	54·5	3·4	·332	78
LEDNATHIE, (Forfar.) Wm. Morrison, Gardener to Patrick Stormonth Darling.	720	Apr.	29·026	47·7	32·3	40·0	−2·1	61·5	9	25·3	4	38·8	2·4	·190	81
		May	29·092	56·4	37·9	47·1	−0·1	72·8	28	30·5	20	46·9	3·4	·245	78
		Jun.	29·317	61·3	42·4	51·8	−1·5	76·6	4	29·3	20	51·2	3·5	·290	77
BALRUDDERY, (Forfar.) R. Cairns, Gardener to J. Martin White.	280	Apr.	29·507	49·9	35·0	42·4	−2·6	60·0	9	25·0	18	41·9	3·4	·200	76
		May	29·572	59·0	42·2	50·6	+0·2	76·0	31	29·0	11	49·7	3·2	·279	79
		Jun.	29·797	62·5	46·3	54·4	−1·9	74·0	4	33·0	3	54·4	3·0	·340	80
PERTH, (Perth.) John Leslie, Gardener to Henry Coats.	105	Apr.	29·718	50·6	33·3	41·9	−3·6	60·5	9	23·0	24	41·8	3·4	·198	76
		May	29·760	58·9	40·1	49·5	−0·2	75·5	25	33·5	18	49·2	3·0	·278	79
		Jun.	29·991	64·1	44·7	54·4	−1·6	82·0	4	32·5	14	53·9	3·5	·321	77
STRONVAR, (Perth.) D. L. Mackintosh, Gardener to James Carnegie.	422	Apr.	29·376	49·0	31·5	40·3	−3·7	57·5	25	20·5	18	39·8	2·4	·199	81
		May	29·417	58·6	38·8	48·7	+0·2	75·0	26	20·0	19	47·9	3·6	·251	76
		Jun.	29·626	63·5	41·5	52·5	−2·2	72·0	6	27·0	20	52·4	4·0	·292	74
OCHTERTYRE, (Perth.) George Croucher, Gardener to Sir Patrick Keith Murray, Bart.	333	Apr.	29·462	51·2	34·0	42·6	−1·9	61·0	9	26·0	24	41·1	3·0	·198	77
		May	29·512	59·1	40·5	49·8	+0·7	76·0	25	33·0	10	48·8	3·6	·261	75
		Jun.	29·735	65·6	45·2	55·4	0·0	80·0	4	32·0	20	54·0	4·0	·310	74
CLATHICK, (Perth.) Alex. Hendry.	300	Apr.	29·510	..	34·3	...	...	...	...	26·0	24	41·7	2·9	·206	79
		May	29·552	57·9	40·4	49·1	...	75·0	26	31·2	11	49·1	3·4	·269	76
		Jun.	29·768	64·9	45·3	55·1	...	81·3	5	32·5	20	53·9	3·2	·329	79

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
7·0	22	3·11	+ 0·96	0·90	28	12	0	0	0	8	2	2	0	5	0	19	0	13	0	23	0	3 1
7·6	16	2·38	+ 0·45	0·62	5	0	0	0	1	13	6	1	7	1	1	21	0	19	0	13	0	2·7
7·8	16	1·49	− 0·80	0·30	28	0	0	0	2	14	3	0	1	9	0	17	0	6	0	27	0	3·1
5·8	19	1·84	− 0·23	0·30	14	7	1	0	3	5	3	2	2	3	3	8	8	10	5	20	1	3·2
7·1	10	2·24	+ 0·22	0·55	16	1	0	0	3	10	4	0	9	5	9	9	4	17	2	7	0	2·3
6·0	9	1·49	− 0·40	0·43	27	0	0	1	1	5	3	0	18	6	2	12	6	9	1	4	2	2·6
...	23	2·60	+ 0·40	...	...	...	...	...	...	...	...	...	7	5	2	11	7	3	3	22	0	...
...	20	2·79	+ 0·79	...	...	...	...	...	...	...	...	...	10	8	3	20	2	9	4	6	0	...
...	17	1·63	− 0·31	...	...	...	...	...	...	...	...	...	15	4	3	12	8	4	2	12	0	...
6·8	23	1·50	− 0·38	...	...	8	1	0	3	11	2	0	11	8	3	8	8	6	1	17	3	4·0
7·2	12	1·75	+ 0·15	...	...	0	0	0	4	16	3	0	9	6	4	6	14	7	0	7	9	3·2
6·7	8	1·38	− 0·72	...	...	0	0	1	3	11	4	0	17	4	2	2	12	2	1	14	6	3·6
6·8	21	3·04	...	1·14	27	8	4	0	2	12	0	0	8	13	4	4	7	5	6	10	3	2·4
6·2	14	2·58	...	0·57	4	0	0	0	6	13	5	1	13	11	7	7	7	6	4	2	5	2·8
7·0	15	1·70	...	0·38	27	0	1	1	1	14	7	0	13	11	9	9	4	2	1	6	5	2·8
...	10	1·88	− 0·69	0·63	27	7	2	0	...	...	4	2	23	5	5	3	8	3	7	5	1	3·2
..	9	1·61	− 0·27	0·80	3	0	0	0	...	...	3	1	14	8	15	4	11	5	4	1	0	2·8
...	10	2·14	+ 0·10	0·76	28	0	1	1	...	...	2	1	17	4	14	5	3	8	7	2	0	3·2
6·1	15	0·67	− 1·05	0·19	27	8	6	1	2	9	2	1	13	9	4	6	5	7	9	7	0	2·6
5·6	9	1·37	− 0·50	0·49	3	0	0	0	4	7	2	0	7	20	9	7	5	3	11	0	0	2·1
6·5	11	1·76	− 0·17	0·76	27	0	0	2	1	8	1	0	6	17	12	6	6	4	3	6	0	2·0
7·6	11	1·11	− 0·82	0·49	27	6	0	0	4	13	2	1	1	7	6	14	2	5	5	20	0	2·7
7·3	10	1·30	− 0·58	0·39	3	0	0	0	2	15	2	2	0	14	9	20	0	14	4	1	0	2·1
7·9	17	2·80	+ 0·24	0·55	27	0	0	2	0	18	2	0	0	21	4	17	1	13	1	3	0	1·9
5·1	13	1·32	...	0·65	27	4	0	0	3	6	0	1	2	3	14	3	1	6	11	17	3	2·4
...	12	1·50	...	0·42	3	0	0	0	...	...	1	0	0	5	28	3	2	9	15	0	0	2·2
6·6	19	2·24	...	0·62	28	0	0	1	3	11	...	0	3	8	28	2	0	13	6	0	0	2·0
6·6	21	2·49	− 0·62	1·76	27	9	3	0	2	9	1	2	12	5	4	11	0	1	7	17	2	3·4
6·5	14	1·79	− 0·81	0·80	3	0	0	0	3	11	4	1	13	7	8	12	8	3	7	4	0	3·2
6·7	15	3·09	+ 0·26	1·02	27	0	2	1	3	12	5	0	13	3	1	20	2	6	8	6	1	2·8
5·9	13	1·23	...	0·51	27	6	1	0	2	2	0	1	9	6	4	7	0	6	5	23	0	3·7
4·8	9	1·14	...	0·28	2	0	0	0	5	4	0	0	3	11	6	6	3	14	14	5	0	3·3
4·7	13	2·25	...	0·87	28	0	1	1	0	1	0	0	3	21	6	3	2	12	8	5	0	2·4
5·5	...	0·96	− 1·18	...	...	...	...	0			...	0	11	3	15	7	0	2	9	6	7	1·8
6·4	...	1·30	− 0·92	...	...	...	...	0	4	11	...	0	4	4	19	4	10	11	0	0	10	1·0
6·2	...	1·66	− 0·59	...	...	...	...	1	3	10	...	0	0	10	13	7	8	4	4	7	7	1·2
...	18	1·91	− 2·20	0·58	3	...	...	0	...	...	...	...	12	10	8	4	0	6	2	18	0	...
...	17	2·28	− 1·67	0·37	16	...	...	0	...	...	...	...	0	12	22	0	0	10	16	2	0	...
...	14	3·38	− 0·56	0·90	27	...	...	2	...	...	...	..	0	4	26	4	0	8	16	2	0	...
5·8	15	1·19	1·06	0·39	27	...	...	1	4	10	...	1	4	4	17	0	0	4	17	13	1	1·9
7·4	14	1·76	− 0·82	0·47	16	...	...	0	2	19	...	0	0	4	32	0	1	7	12	4	1	2·0
5·9	8	3·00	+ 0·04	0·91	27	0	0	3	1	8	...	0	5	9	16	1	4	6	12	6	1	1·0
6·0	8	0·36	...	0·13	29	2	0	1	2	7	0	1	18	3	11	10	1	2	2	13	0	2·8
6·8	11	1·77	...	0·37	3	0	0	0	3	14	0	0	6	7	20	11	2	12	2	2	0	2·3
6·4	8	3·01	...	0·80	27	0	0	2	1	8	0	0	2	5	24	13	7	3	5	1	0	2·6

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903. Months.	BAROMETER. Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	AIR TEMPERATURE. Mean of A. Maximum.	Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.											in.	%
CUPAR, (Fife.)	210	Apr.	29·601	49·3	33·9	41·6	−2·5	57·0	1, 10	26·0	23	42·1	2·8	·211	79
Dr TURNBULL, Fife and		May	29·651	57·8	41·4	49·6	+0·5	74·0	31	31·0	11	49·4	3·3	·274	78
Kinross District Asylum.		Jun.	29·870	64·1	45·8	55·0	−1·0	80·0	4	34·0	20	54·6	3·1	·342	80
BUCHLYVIE, (Stirling.)	125	Apr.	29·687	50·4	33·3	41·8	−2·6	58·0	24	24·0	22	42·0	2·5	·216	82
Rev. JOHN A. MACDONALD.		May	29·744	58·0	40·7	49·3	−0·1	75·0	26	28·0	11	49·7	3·1	·281	79
		Jun.	29·959	64·9	45·2	55·0	−0·4	77·5	6	33·0	14, 20	55·3	3·4	·345	78
HELENSBURGH,	18	Apr.	...	51·7	34·3	43·0	−2·2	59·0	29	25·0	17, 24	42·8	2·9	·219	80
(Dumbarton.)		May	...	58·6	42·4	50·5	+0·4	76·1	28	30·0	11	49·0	3·1	·274	78
J. R. WILSON, Waterworks.		Jun.	...	65·2	46·2	55·7	+0·8	80·0	6	35·1	22	55·0	3·7	·332	77
DUMBARTON, (Dumbarton.)	27	Apr.	29·824	51·7	35·8	43·8	−2·2	58·0	26	26·9	22	43·0	2·9	·217	79
WILLIAM DENNY AND		May	29·848	58·5	42·8	50·6	+0·8	77·9	27	30·8	11	50·3	3·3	·283	78
BROTHERS.		Jun.	30·066	65·2	47·9	56·6	+0·4	76·4	7	37·0	20	56·0	3·7	·348	77
LOCHBUIE, (Argyll.)	20	Apr.	29·840	48·9	36·6	42·8	−2·2	57 6	30	28·5	17	42·6	2·0	·231	85
J. T. MANNARY, Gardener to		May	29·850	56·7	43·5	50·1	+0·1	75·0	29	31·8	11	50·1	3·6	·275	76
the Maclaine of Lochbuie.		Jun.	30·074	61·5	46·5	54·0	−1·0	70·0	11	30·5	21	54·0	3·0	·334	80
AIRDS, (Argyll.)	15	Apr.	29·838	49·4	37·1	43·2	−2·7	56·0	25	30·0	18, 26	43·2	2·2	·282	83
Colonel MACFIE, C.B., and		May	29·860	57·0	43·1	50·0	0·0	74·0	29	34·0	11	50·0	2·7	·293	82
ALEXANDER M'LACHLAN.		Jun.	30·078	61·3	46·2	53·8	−1·2	72·0	7, 8	40·0	14, 20	54·7	3·1	·344	80
POLTALLOCH, Lochgilphead,	135	Apr.	29·708	50·5	35·8	43·2	−1·8	60·0	30	27·0	22	42·1	2·7	·218	80
(Argyll.)		May	29·730	58·8	42·6	50·7	+0·9	78·0	27	30·0	11	49·3	2·9	·282	80
D. S. MELVILLE, Gardener		Jun.	29·943	64·9	46·9	55·9	+0·8	76·0	11	37·0	20, 21	55·2	3·7	·335	77
ROTHESAY, (Isle of Bute.)	116	Apr.	29·736	51·1	35·6	43·3	−1·9	59·0	30	26·0	15	42·2	2·7	·214	81
JAMES KAY.		May	29·754	58·2	42·9	50·5	+0·7	74·5	26	31·5	11	49·1	3·2	·273	77
		Jun.	29·966	64·2	47·3	55·7	+0·6	74·0	7	38·5	14	54·2	3·4	·327	78
GREENOCK, (Renfrew.)	238	Apr.	29·600	48·5	36·5	42·5	−2·0	54·9	26	28·7	15	42·4	2·0	·210	78
DANIEL MACALISTER, C.E.,		May	29·623	56·5	43·6	50·0	+0·7	74·1	27	33·7	11	49·5	3·4	·272	77
Waterworks.		Jun.	29·841	62·7	48·0	55·3	+0·3	72·2	7	40·4	20	54·2	3·5	·325	77
PAISLEY, (Renfrew.)	107	Apr.	29·733	52·2	35·8	44·0	−1·0	60·1	24	26·0	15	43·4	3·3	·218	76
DONALD MACLEAN,		May	29·756	58·9	43·1	51·0	+0·4	75·3	26	31·9	11	50·4	3·7	·276	76
The Coats Observatory.		Jun.	29·967	64·9	48·3	56·6	+0·3	75·1	6	38·0	20	55·4	3·8	·336	77
BOWHILL, (Ayr.)	978	Apr.	28·798	45·6	32·1	38·8	−2·0	54·5	25	24·5	22	38·7	1·9	·198	85
ALEXANDER GILLESPIE, C.E.		May	28·810	55·2	38·6	46·9	+0·3	73·5	26	30·0	11	46·8	2·7	·257	81
		Jun.	29·023	61·0	...	...	...	71·0	7	...	...	50·6	2·8	·298	81
KILMARNOCK (Ayr.)	...	Apr.	29·771	50·2	35·0	42·6	...	58·9	30	23·5	15	43·0	3·2	·211	77
GLENFIELD & KENNEDY, Ltd.		May	29·795	58·4	43·4	50·9	...	76·0	26	31·0	12	51·1	3·2	·296	78
		Jun.	30·011	61·6	46·9	54·2	...	71·3	7	35·2	2	54·6	3·6	·329	77
GLASGOW, Belvidere Hosp.,	54	Apr.	29·789	51·3	35·0	43·1	−2·8	59·2	25	24·2	15	42·9	3·2	·210	77
(Lanark.)		May	29·818	57·7	42·0	49·9	−0·5	72·4	25	31·6	11	50·0	3·1	·284	79
Dr JOHN BROWNLEE.		Jun.	30·027	62·2	46·8	54·5	−0·7	72·2	4, 6	36·8	14, 20	54·9	3·0	·349	80
GLASGOW, Observatory,	184	Apr.	29·647	48·7	36·1	42·4	−2·8	56·0	25	27·6	15	42·1	3·2	·204	76
(Lanark.)		May	29·675	56·3	43·4	49·8	−0·4	73·1	26	33·9	11	49·2	3·6	·266	76
Prof. BECKER, F.R.S.E.		Jun.	29·890	61·9	48·4	55·1	−0·3	75·1	6	40·1	20	54·3	4·2	·309	73
BOTHWELL, (Lanark.)	...	Apr.	...	49·7	33·8	41·8	...	59·0	30	25·0	15	41·7	2·8	·208	79
Dr JOHN T. WILSON.		May	...	57·0	41·2	49·1	...	73·4	26	32·0	11	49·4	3·2	·276	78
		Jun.	...	62·6	46·1	54·4	...	73·0	6	36·4	20	54·0	3·6	·320	76

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
6·7	6	0·82	−1·15	0·33	29	...	...	...	2	4	...	0	19	0	16	2	0	0	7	12	4	2·9
5·6	11	0·97	−1·01	0·34	5	...	...	...	1	4	...	0	6	4	33	0	0	1	10	6	2	2·7
6·2	9	1·12	−0·90	0·50	28	...	...	...	0	4	...	0	3	4	36	2	0	0	13	2	0	2·7
6·1	19	1·94	−0·42	0·49	3	5	2	1	10	3	0	2	4	8	14	2	0	5	11	16	0	2·5
5·1	25	3·02	+0·24	0·53	13	0	0	0	5	9	0	0	0	3	26	6	1	7	16	0	3	2·4
5·0	13	3·30	+0·19	0·85	28	0	0	0	7	6	0	0	1	6	21	8	1	5	13	3	2	1·8
...	12	1·70	−0·76	0·78	3	...	...	...	...	...	...	...	4	0	4	6	8	8	20	10	0	...
...	16	2·97	+0·36	0·47	4	...	...	...	...	...	...	...	0	0	8	16	30	4	2	2	0	...
...	11	2·86	+0·05	0·53	27	...	...	...	...	...	...	..	0	0	26	4	4	0	22	4	0	...
...	13	1·18	−1·52	0·32	3	...	...	...	...	...	...	0	6	4	4	2	2	2	8	16	16	1·8
...	17	2·60	−0·16	0·44	13	...	...	...	...	...	..	0	6	4	4	8	4	2	6	2	26	0·7
...	11	2·92	+0·13	0·68	27	...	...	...	...	..	...	0	4	4	8	8	2	6	8	8	12	0·9
...	17	7·28	...	1·50	3	3	2	0	...	...	3	2	4	4	10	6	14	10	6	4	2	2·7
...	12	4·58	...	0·66	14	0	0	0	...	...	6	1	4	12	14	2	4	20	2	0	4	2·6
...	8	1·74	...	0·45	28	0	0	0	...	...	4	0	6	4	20	2	12	12	4	0	0	2·2
7·5	...	2·69	...	...	...	...	...	...	1	16	...	...	16	3	9	7	11	3	10	1	0	...
7·5	...	2·50	...	...	...	...	...	...	3	18	...	...	9	1	23	4	9	3	13	0	0	...
6·3	...	2·97	...	...	...	...	...	...	5	12	...	...	13	0	20	1	4	3	17	2	0	...
6·2	12	1·67	−0·90	0·56	3	6	0	0	4	9	0	0	10	5	5	5	1	6	2	2	24	2·5
6·7	12	2·39	−0·24	0·43	14	0	0	0	3	13	0	0	2	1	14	5	5	9	4	4	18	1·8
5·8	8	1·13	−2·19	0·45	30	0	0	0	6	9	0	0	2	8	7	2	10	5	4	3	19	2·1
6·0	14	1·89	−0·78	0·64	3	4	3	0	4	10	0	0	0	3	6	4	2	4	7	22	12	1·5
7·3	18	3·05	+0·34	0·53	16	0	0	0	4	17	0	0	3	15	13	3	3	4	8	7	6	1·6
6·2	12	2·12	−1·10	0·77	30	0	0	0	6	15	0	0	2	16	7	2	10	5	5	11	2	1·4
7·3	13	2·11	−1·24	0·82	3	3	2	1	0	11	4	1	0	2	4	14	0	5	12	22	1	3·0
7·4	16	3·89	+0·62	0 60	13, 16	0	0	0	2	15	0	0	0	8	20	9	0	6	12	6	1	2·5
7·1	11	2·85	−0·69	0·76	30	0	0	0	0	11	0	0	0	11	19	4	0	7	9	10	0	2·4
5·4	16	2·32	+0·44	0·78	30	3	3	1	6	8	2	2	5	7	5	2	5	6	18	12	5	2·4
..	17	2·95	+0·78	0·55	13	...	...	...	...	...	...	0	5	12	13	2	4	5	9	6	6	1·7
6·2	12	2·80	+0·55	0·98	27	0	0	1	4	14	0	0	6	12	16	6	3	7	5	5	0	1·7
...	11	1·17	...	0·41	15	...	...	...	...	...	...	...	13	1	9	5	10	8	6	8	0	..
...	19	2·94	...	1·20	14	...	...	...	...	...	...	.	6	2	17	15	8	8	5	1	0	...
...	8	1·49	...	0·44	23	...	...	...	...	...	...	...	1	6	18	4	10	5	6	9	1	...
5·5	12	1·28	...	0·53	3	4	0	1	0	3	0	0	1	6	7	7	3	10	17	9	0	1·9
5·4	18	3·17	...	0·76	13	0	1	0	4	4	0	0	1	9	17	6	1	9	12	7	0	1·6
4·7	11	3·06	...	1·40	27	0	0	0	5	1	0	0	1	9	11	6	3	13	15	2	0	1·4
5·4	15	1·64	−0·20	0·76	14	3	2	1	1	3	2	0	10	2	25	0	0	0	15	5	3	1·6
5·9	16	2·53	+0·29	0·98	14	0	0	0	4	7	6	0	14	2	32	1	0	0	5	3	5	1·2
6·0	14	1·93	−0·71	0·63	27	0	0	0	1	13	2	0	6	0	34	0	0	0	16	3	1	1·1
6·3	15	1·45	−0·56	0·41	30	4	2	1	1	8	3	1	3	4	7	1	1	9	14	9	12	1·1
7·6	15	2·59	+0·19	0·63	13	0	0	0	0	17	2	0	1	11	22	1	0	8	7	1	11	1·0
7·3	11	1·99	−0·82	0·73	27	0	0	0	0	14	3	0	0	4	22	5	0	8	13	1	7	1·2
...	10	1·59	−0·14	0·56	30	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	15	1·79	+0·01	0·50	13	...	...	...	...	...	...	...	...	...	..	...	.	...	...	...	...	...
...	8	1·60	−0·31	0·52	28	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.											inch	%
LEADHILLS, (Lanark) James M'Farlane.	1300	Apr.	...	42·3	29·9	36·1	...	50·5	30	19·0	17	36·5	1·8	·183	84
		May	...	53·3	39·8	46·6	...	72·0	26	28·0	11	46·5	2·7	·255	82
		Jun.	...	56·5	41·2	48·8	...	67·0	7	30·0	12, 20	48·3	2·5	·279	83
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. Copeland, F.R.S.E.	441	Apr.	29·366	47·6	34·0	40·8	−2·7	54·0	8	26·5	15	40·6	2·6	·201	80
		May	29·410	54·0	41·1	47·5	+0·2	68·2	31	35·5	11	47·3	2·9	·259	80
		Jun.	29·623	59·0	47·4	53·2	−0·8	74·2	4	39·7	18	52·1	3·2	·307	78
CORSTORPHINE, (Edinburgh.) Dr T. N. Johnston.	165	Apr.	29·660	48·9	34·4	41·6	...	55·3	30	25·1	25	41·5	3·0	·202	78
		May	29·705	55·7	42·1	48·9	...	69·8	31	35·7	11	48·2	3·1	·263	79
		Jun.	29·912	62·3	47·8	55·0	...	75·9	4	38·7	18, 20	53·4	3·5	·316	77
LEITH, (Edinburgh.) James Bolam, Navigation School, and George Redpath.	76	Apr.	29·753	49·5	37·1	43·3	−1·9	56·1	8	31·1	18	43·0	3·3	·210	76
		May	29·799	55·3	44·0	49·6	+0·1	69·3	25	37·1	11	49·0	3·1	·274	78
		Jun.	30·016	61·5	49·4	55·5	−0·5	78·6	4	42·9	20	54·2	3·9	·317	75
DALKEITH, (Edinburgh.) J. Whytock, Gardener to the Duke of Buccleuch.	190	Apr.	29·637	49·8	34·8	42·3	−2·7	56·0	28	26·0	15	42·4	2·5	·219	81
		May	29·673	57·2	42·6	49·9	+0·5	73·0	26	36·0	11	49·5	3·5	·270	76
		Jun.	29·893	62·1	48·0	55·0	−0·9	79·0	4	38·0	20	54·4	3·9	·319	75
SMEATON, (Haddington.) John Black, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Apr.	29·725	50·4	35·2	42·8	−3·7	58·5	10	28·0	18	42·8	2·5	·223	81
		May	29·776	58·3	42·3	50·3	−0·2	72·0	25	36·0	11	50·3	3·1	·288	79
		Jun.	29·996	64·0	47·6	55·8	−1·0	82·0	4	35·0	20	55·1	3·8	·331	76
MARCHMONT, (Berwick.) John A. Wood, Gardener.	500	Apr.	29·285	47·7	33·7	40·7	−3·2	57·0	10	25·0	17	41·0	2·4	·208	81
		May	29·329	53·9	40·4	47·1	−1·1	72·0	31	33·0	18	47·7	2·9	·264	81
		Jun.	...	...	...	...	...	...	...	...	...	52·1	3·0	·312	80
DUNS CASTLE, (Berwick.) Robert Aikman, Gardener to R. Mordaunt Hay.	500	Apr.	29·288	48·9	32·3	40·6	−3·6	57·0	10	26·4	18	41·5	2·3	·215	83
		May	29·332	56·9	40·3	48·6	+0·4	71·6	31	34·0	18	49·2	3·1	·276	79
		Jun.	29·565	61·5	45·8	53·6	−0·6	75·0	4	35·0	20	53·3	3·3	·318	78
STOBO CASTLE, (Peebles.) William Young, Gardener to Sir G. G. Montgomery, Bart.	600	Apr.	29·188	48·3	33·3	40·8	−2·7	57·0	8	16·0	15	41·0	2·2	·211	83
		May	29·220	56·1	40·7	48·4	−0·1	73·0	31	31·0	11	48·5	2·5	·280	82
		Jun.	29·448	62·2	43·9	53·0	−1·8	76·0	6	29·0	30	53·5	3·3	·321	78
BROOMLANDS, (Roxburgh.) James Brunton.	205	Apr.	29·616	50·5	33·2	41·8	−3·3	60·0	10	24·0	15	41·1	2·5	·207	80
		May	29·656	58·0	40·2	49·1	−0·4	75·0	31	34·0	9	48·6	2·6	·280	82
		Jun.	29·876	61·9	45·6	53·8	−1·7	75·0	4	34·0	20	53·6	3·5	·318	82
WOLFELEE, (Roxburgh.) William Gordon, Gardener to J. T. S. Elliot.	537	Apr.	29·249	49·5	31·1	40·3	−2·8	59·0	30	18·0	15	40·1	2·5	·199	80
		May	29·277	57·8	38·5	48·2	−0·9	78·0	31	31·0	12	47·5	3·0	·259	80
		Jun.	29·499	62·2	44·2	53·2	−1·8	76·0	4	29·0	20	52·2	3·1	·311	80
DRUMLANRIG, (Dumfries.) David Inglis, Gardener to the Duke of Buccleuch.	191	Apr.	29·645	50·4	34·1	42·2	−1·8	59·4	30	19·0	16	41·8	2·5	·206	81
		May	29·660	58·7	40·2	49·5	−0·3	75·4	26, 31	31·0	20	49·5	2·9	·283	80
		Jun.	29·881	63·8	44·2	54·0	−1·8	75·0	7	29·0	20	54·0	3·2	·329	79
DUMFRIES, (Dumfries.) Rev. William Andson.	60	Apr.	29·784	52·1	34·6	43·4	−2·6	59·0	10	25·2	18	43·4	3·2	·215	76
		May	29·806	60·3	42·9	51·6	+0·2	79·7	31	35·2	11	50·8	3·3	·290	78
		Jun.	30·020	65·1	46·9	56·0	−0·9	76·8	4	36·0	12	55·8	4·7	·321	72
CARGEN, (Kirkcudbright.) Alex. Peacock, Gardener to Colonel Dudgeon.	85	Apr.	...	...	...	...	...	...	...	...	...	...	...	...	...
		May	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jun.	...	...	...	...	...	...	...	...	...	...	...	...	...

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	14	1·77	...	0·85	3	7	0	0	...	...	0	0	...	...	...	...	...	...	...	...	...	...
...	15	2·37	...	0·75	14	0	0	0	...	...	0	0	...	...	...	...	...	...	...	...	...	...
...	7	2·11	...	0·91	27	0	0	0	...	...	0	0	...	...	...	...	...	...	...	...	...	...
5·9	14	1·06	−0·41	0·29	29	4	0	1	3	8	3	0	7	5	5	6	4	7	14	9	3	2·8
6·4	13	1·17	−0·47	0·35	4	0	0	0	3	11	6	0	3	12	17	2	8	6	13	0	1	2·3
6·9	11	1·09	−0·82	0·37	5	0	0	0	2	12	2	0	3	15	18	2	6	5	10	1	0	2·6
...	18	1·16	...	0·31	29	...	..	...	...	...	...	...	11	0	10	0	3	0	22	3	11	1·6
...	15	1·72	...	0·53	4	...	...	...	...	...	...	...	2	0	27	0	2	2	24	0	5	2·2
...	13	1·33	...	0·37	5	...	...	...	...	...	...	...	3	1	33	2	1	0	12	2	6	1 8
6·4	18	1·19	−0·53	0·25	30	4	4	2	4	14	2	0	10	5	14	3	0	3	19	6	0	3·3
7·1	15	1·18	−0·68	0·31	5	0	0	0	2	16	6	0	2	14	23	3	2	6	11	0	1	3·0
7·4	12	1·57	−0·44	0·40	5	0	0	1	3	17	0	0	5	8	23	9	1	5	4	3	2	3·1
...	15	...	...	...	...	5	1	1	...	...	1	0	5	7	7	5	1	9	6	20	0	...
...	11	...	...	...	...	...	...	...	...	...	...	...	0	15	4	10	5	20	5	3	0	...
...	7	...	...	...	...	...	...	...	...	...	...	...	4	15	10	5	1	14	5	6	0	...
4·7	8	0·92	−0·63	0·30	29	1	0	1	2	13	0	2	13	5	12	0	5	9	11	5	0	...
5·0	8	0·63	−1·13	0·19	4	0	0	0	2	14	7	0	7	1	30	3	6	9	6	0	0	...
4·9	9	1·58	−0·33	0·28	17	0	0	0	3	10	5	0	6	19	12	0	16	6	1	0	0	...
5·1	13	1·30	−0·97	0·31	29	10	2	1	4	8	0	4	6	11	13	0	3	6	13	8	0	4·3
5·7	14	1·67	−0·69	0·29	3	0	0	0	7	11	3	0	1	15	27	1	6	11	1	0	0	3·4
6·6	14	1·90	−0·74	0·33	13	0	0	2	4	13	0	0	14	13	12	2	5	3	11	0	0	3·9
6·7	10	1·82	−0·25	0·54	30	...	...	...	0	7	...	...	23	1	1	0	15	5	13	2	0	2·6
6·9	10	1·60	−0·48	0·33	3	...	...	...	3	15	...	...	29	1	2	0	16	12	2	0	0	3·5
7·9	13	2·32	+0·01	0·35	15	...	...	...	0	18	...	...	40	0	0	0	12	6	2	0	0	2·1
...	14	0·70	−1·10	...	...	6	0	0	...	...	0	0	3	8	9	3	1	4	17	15	0	...
...	12	0·50	−1·21	...	...	0	0	1	...	...	0	0	7	10	15	2	7	6	12	3	0	...
..	8	1·10	−0·83	...	...	0	0	0	...	...	0	0	12	8	13	3	15	3	4	2	0	...
5·4	17	0·99	−0·71	0·26	14	1	0	1	2	6	0	0	0	11	13	2	1	1	11	10	11	1·0
5·9	13	1·05	−0·79	0·23	3	0	0	1	3	7	0	0	0	7	21	4	0	6	13	1	10	0·9
6·6	13	1·47	−0·59	0·34	4	0	0	0	1	6	0	0	0	5	24	4	0	4	14	1	8	1·0
5·7	8	0·64	−1·78	0·46	15	3	0	1	3	7	0	0	1	7	1	3	0	10	27	11	0	1·4
6·3	15	1·83	−0·71	0·53	10	0	0	1	7	12	1	0	1	26	5	3	0	0	24	3	0	1·2
6·4	14	1·10	−1·24	0·28	17	0	0	3	3	11	2	0	4	20	2	8	0	14	6	6	0	1·4
..	16	1·52	−0·86	0·33	14	2	0	1	...	...	0	0	18	1	0	9	1	4	3	24	0	...
...	18	2·21	−0·16	0·30	13,30	0	0	2	...	...	0	0	2	10	2	7	3	14	7	17	0	...
...	9	2·20	−0·34	0·66	27	0	0	0	...	...	0	0	2	21	0	0	3	16	0	18	0	...
...	13	1·71	−0·51	0·70	30	2	2	1	...	...	1	0	4	7	5	4	3	8	9	19	1	2·5
...	18	2·63	+0·30	0·41	5	0	0	0	...	...	0	0	1	12	16	4	3	16	4	6	0	2·2
...	10	1·71	−0·69	0·46	27	0	0	0	...	...	1	0	2	16	12	10	5	6	4	5	0	2·4
...	6	1·53	−0·83	0·83	29	..	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...
...	17	3·81	+1·24	0·74	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	9	1·84	−0·74	0·43	27	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.	°	°	°	°	°		°		°	°	inch.	%
CALLY (Kirkcudbright.) **Wm. Thomson**, Gardener to H. G. Murray Stewart of Broughton.	120	Apr.	29·722	50·9	34·7	42·8	−3·0	58·2	10	25·8	17	42·7	2·2	·228	84
		May	29·741	60·7	42·8	51·6	+1·2	73·6	27,31	31·6	19	50·2	2·4	·302	84
		Jun.	29·959	65·5	44·3	54·9	−0·8	76·0	4	35·0	21	54·6	2·8	·350	80
BEN NEVIS OBSERVATORY, (Inverness.) **R. T. Omond**, F.R.S.E. and **Angus Rankin**.	4407	Apr.	25·235	28·2	21·0	24·6	−3·2	35·0	6	12·6	17	24·5	0·2	·125	95
		May	25·325	36·9	29·8	33·4	+0·4	56·0	27	15·7	11	33·4	1·1	·169	83
		Jun.	25·555	42·8	34·6	38·7	−1·0	58·0	7	22·8	18	38·7	1·8	·200	86

RECORD OF SUNSHINE.

STATIONS.	1903.	SUNSHINE.		
	Months.	Total Observed.	Difference from Average.	Per centage of Possible.
		hours.	hours.	%
DEERNESS, (Orkney.)	Apr.	132·5	−16·6	31
	May	143·7	−36·3	28
	Jun.	140·8	−10·0	26
FORT AUGUSTUS, (Inverness.)	Apr.	107·6	− 8·0	25
	May	112·5	−22·1	22
	Jun.	141·6	+11·2	27
FORT WILLIAM, (Inverness.)	Apr.	119·7	−18·1	28
	May	135·2	−42·1	27
	Jun.	177·6	+ 2·1	34
BALRUDDERY, (Forfar.)	Apr.	151·0	...	36
	May	159·3	...	31
	Jun.	163·0	...	31
PAISLEY, (Renfrew.)	Apr.	148·8	+ 5·8	35
	May	147·4	−22·6	29
	Jun.	148·5	− 8·5	29
GLASGOW, (Lanark.)	Apr.	128·0	+ 0·9	30
	May	132·6	−34·0	27
	Jun.	168·1	− 7·7	32
EDINBURGH, (Edinburgh.)	Apr.	133·1	...	31
	May	150·7	...	30
	Jun.	158·9	...	31
MARCHMONT, (Berwick.)	Apr.	144·8	+ 3·6	34
	May	140·8	−43·8	28
	Jun.	157·3	−20·7	30
BEN NEVIS OBSERVATORY, (Inverness.)	Apr.	40·2	−39·8	9
	May	79·0	−37·0	16
	Jun.	137·0	+10·0	26

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	16	2·33	– 0·53	0·51	3	8	1	0	...	...	0	0	10	13	2	7	0	6	4	18	0	1·0
...	19	3·49	+ 0·57	0·52	14	0	0	1	...	...	0	0	1	12	3	10	9	15	0	10	2	1·4
...	10	2·73	– 0·32	0·93	27	0	0	0	...	...	0	0	2	19	5	9	11	7	1	6	0	1·0
8·0	22	8·36	+ 0·31	1 91	6	18	8	0	1	27	25	0	14	14	4	10	6	2	2	4	4	1·7
8·2	19	6·61	– 0·90	1·18	16	17	1	0	2	25	25	2	8	6	4	18	8	6	8	0	4	1·6
7·4	18	6·44	– 1·10	1·51	29	5	1	2	3	15	21	0	18	10	4	6	6	4	2	4	6	1·6

UNDERGROUND TEMPERATURE.

STATIONS.		1903.	UNDERGROUND TEMPERATURE.				
		Months.	Depth in Inches.				
			3	12	22	36	48
			°	°	°	°	°
DUNROBIN,	(Sutherland.)	Apr.	42·0	44·3	44·2	...	...
		May	...	...	...	...	...
		Jun.	...	..	...	...	...
HADDO HOUSE,	(Aberdeen.)	Apr.	41·1	41·6	41·8	...	.
		May	49·9	49·2	47·4	.	...
		Jun.	56·8	56·9	55·3	...	..
ARBROATH,	(Forfar.)	Apr.	41·8	41·6	42·0	...	.
		May	48·9	46·9	46·0	...	. .
		Jun.	53·7	53·0	52·0	..	.
OCHTERTYRE,	(Perth.)	Apr.	41·5	43·4	43·4	43·2	43·2
		May	48·3	49·0	47·7	46·0	45·6
		Jun.	54·3	55·1	53·6	51·4	50·4
POLTALLOCH,	(Argyll.)	Apr.	44·1	46·0	44·2	...	...
		May	52·1	52·3	50·2	...	...
		Jun.	59·0	60·1	58·5	...	...
PAISLEY,	(Renfrew.)	Apr.	42·7	42·6	44·8	...	...
		May	49·0	48·4	48·6	...	...
		Jun.	55·7	55·1	55·3	...	...
CORSTORPHINE,	(Edinburgh.)	Apr.	42·4	43·3	43·5	...	. .
		May	49 5	49·2	48·3	...	...
		Jun.	56·8	56·7	55·8	...	.
SMEATON,	(Haddington.)	Apr.	44·1	44·3	43·7	...	. .
		May	51·1	50·4	48·6	...	...
		Jun.	58 3	58·2	55·5	...	..
MARCHMONT,	(Berwick.)	Apr.	40·9	41·9	42·9	...	. .
		May	49 3	48 2	47·9	...	..
		Jun.	55·1	55·4	56·3	...	...

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 30th SEPTEMBER 1903.

By Dr BUCHAN, under the Direction of the Council of the Scottish Meteorological Society.

THESE returns are founded on the observations made, morning and evening, at 60 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N.; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1903.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %.	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
July	29·846	63·0	48·3	55·6	80·0	33·0	55·4	2·9	·358	82	17	4·50	7·2	*
Aug.	29·678	61·8	47·1	54·4	74·0	32·5	54·1	2·7	·343	81	22	5·53	6·5	
Sept.	29·956	59·6	45·3	52·5	72·0	27·0	52·0	2·3	·328	84	16	3·20	6·1	*

1903.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
July	57·8	58·1	57·2	53·8	53·0	6	6	8	6	5	8	13	8	2	2·4	31	2
Aug.	56·3	57·1	56·9	55·0	54·0	3	2	4	4	5	14	19	8	3	2·4	34	3
Sept.	52·5	53·5	53·7	53·2	53·3	4	3	10	10	8	9	7	5	4	2·3	9	1

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these results are compared with the averages of 1856–1900, during the same months, they show the following characteristics and differences :—

JULY 1903—
Mean Barometric Pressure, 29·846 inches; less than the average of 1856–1900 by 0·040 inch.
Mean Temperature, 55°·6; less by 1°·6.
Mean Daily Range of Temperature, 14°·7; less by 0°·2.
Mean Humidity, 82 per cent.; being the average.
Rain, Number of Days, 17; greater by 2 days.
Rain, Depth in Inches, 4·50; greater by 1·35 inch.
Wind, Mean Force (on Scale of 0–12), 2·4; being the average.
Wind, Direction of, a 4 days' excess of winds from between N. and S.E.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·2; greater by 0·6.

AUGUST 1903—
Mean Barometric Pressure, 29·678 inches; less than the average of 1856–1900 by 0·180 inch.
Mean Temperature, 54°·4; less by 2°·2.
Mean Daily Range of Temperature 14°·7; greater by 0°·2.
Mean Humidity, 81 per cent.; less by 2·7.
Rain, Number of Days, 22; greater by 6 days.
Rain, Depth in Inches, 5·53; greater by 1·91 inch.
Wind, Mean Force (on Scale of 0–12), 2·4; greater by 0·1.
Wind, Direction of, a 6 days' excess of winds from between S.W. and N.W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·5; being the average.

SEPTEMBER 1903—

Mean Barometric Pressure, 29·956 inches; greater than the average of 1856–1900 by 0·113 inch.
Mean Temperature, 52°·5; less by 0°·3.
Mean Daily Range of Temperature, 14°·3; greater by 0°·3.
Mean Humidity, 84 per cent.; less by 1·5.
Rain, Number of Days, 16; being the average.
Rain, Depth in Inches, 3·20; less by 0·40 inch.
Wind, Mean Force (on Scale of 0–12) 2·3; less by 0·3.
Wind, Direction of; a 6 days' excess of winds from between E. and S.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·1; less by 0·2.

JULY 1903—

Hence the weather of JULY 1903 was characterised by a rather low mean barometric pressure; a low mean temperature, with a mean daily range about equal to the average; an average mean humidity; a very high mean rainfall, falling on 2 more than the average number of days; a considerable excess of winds of average force from between N. and S.E.

The mean barometric pressure was 29·846 inches, or 0·040 inch below the average. Pressure was irregular during the first six days of the month, and on the 5th a fall amounting at most places to half-an-inch was accompanied by somewhat stormy weather. Thereafter there were no very great barometric fluctuations. The extremes at Leith were, at sea-level, 30·225 inches on the 9th and 29·454 inches on the 5th.

The mean temperature was 55°·6, or 1°·6 below the mean, the days being 1°·7 and the nights 1°·5 below their respective averages. In Midlothian temperature was just about the average, but in general there was a well-marked deficiency, which ranged from about 0°·5 in the extreme South to fully 3°·0 at Peterhead, Nairn, and Wick. The month commenced with temperatures considerably above the average, followed by a short cold period, with fairly high temperatures again from the 9th to 11th. From the 14th to 21st cold Easterly winds prevailed and low temperatures were recorded, as again from the 27th to 29th. At most places highest temperatures were recorded on the 2nd, 9th, 10th or 25th, and lowest on 7th, 8th or 14th. At only about one third of the stations was a maximum of 75°·0 or over reported during the month. At Aberdeen temperature failed to reach 60°·0 from the 13th to the 19th, and on the 16th rose to only 52°·7, the mean temperature there for the week ending July 18th being 51°·5 as compared with 59°·2 for the week ending July 4th, the corresponding figures for Leith being 54°·1 and 61°·2, and for Glasgow 54°·0 and 58°·6. At Fort-William, on the night of the 13th, a thermometer exposed on grass fell to 31°·1. The absolute maximum was 80°·0 at Dumfries on the 2nd and Balruddery on the 10th, and the minimum 33°·0 at Wolflee on the 8th.

The mean rainfall was 4·50 inches, or 43 per cent. above the average, being the largest rainfall for July since 1888, when the mean was 4·69 inches. Except over a limited area in the Glasgow district, where about the normal amount was recorded, there was everywhere a decided excess which was most pronounced towards the North-Eastern counties. At Haddo House more than twice the average amount fell, whilst there was an excess of 93 per cent. at Gordon Castle, and of about 80 per cent. at Wick, Aberdeen, Montrose, and Lednathie. At Cally, on the other hand, the excess amounted to only 12 per cent. and at Fort William to only 18 per cent. At the beginning of the month heavy falls took place, except in the South-Eastern counties, and, especially in N. and N.W., some heavy daily amounts were reported. On the 5th, 2·50 inches were registered at Wick, whilst the total for the first five days of the month was 4·17 inches at Glencarron and 3·63 inches at Fort-William. About the middle of the month heavy falls took place in the East and South At Dumfries 1·33 inch fell on the 14th, and at Dundee 1·63 inch on the 16th. A good deal of rain fell towards the end of the month, Montrose reporting 1·16 inch on the 26th. On Ben Nevis the monthly amount was 13·26 inches, or 2·47 inches above the mean.

Thunder was reported at many places on the 2nd and towards the end of the month. On the 5th and 6th very strong winds from N. and N.W. prevailed, reaching gale force in several districts. Fog was prevalent on North and West coasts from 8th to 10th, on the South East on 16th and 17th, and in the East and North towards the end of the month.

AUGUST 1903—

Hence the weather of AUGUST 1903 was characterised by an extremely low mean barometric pressure; a low mean temperature, with a mean daily range about the average; a rather low mean humidity; a very high mean rainfall, falling on 6 days more than the average number; a large excess of winds of about average force from a Westerly quarter.

The mean barometric pressure was 29·678 inches, or 0·180 inch below the average. Lowest readings were everywhere noted on the morning of the 15th, when a severe thunderstorm occurred at many places, and on the 30th a fall at most places of fully half-an-inch was accompanied by stormy weather. The extremes at Leith were, at sea-level, 30·071 inches on the 25th and 28·882 inches on the 15th.

[*Continued on page* 174.

STATIONS AND OBSERVEES' NAMES.	Height of Station above Sea level.	1903. Months.	BAROMETER. Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	AIR TEMPERATURE. Mean of A. Maximum.	Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.											inch.	
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	July	29·552	...	...	...	...	...	...	...	...	50·0	...	...	...
		Aug.	29·348	...	...	...	...	...	...	...	...	51·5	...	...	...
		Sept.	29·692	...	...	...	...	...	...	...	...	...	...	...	...
LERWICK, (Shetland.) G. Allison, Harbour Master.	30	July	29·769	55·4	47·6	51·5	...	60·0	30	40·0	15	51·4	2·0	·318	87
		Aug.	29·568	56·4	48·2	52·3	...	60·0	6, 12	42·0	20	52·3	2·1	·336	85
		Sept.	29·910	55·5	47·8	51·6	...	64·0	20	39·0	14	51·8	1·8	·338	87
DEERNESS, (Orkney.) M. Spence, Schoolhouse.	172	July	29·646	57·2	47·6	52·4	−1·2	66·0	9	42·2	13	51·3	1·8	·332	88
		Aug.	29·427	56·4	47·7	52·0	−1·5	63·0	9	44·0	25	51·9	1·9	·336	87
		Sept.	29·762	54·4	47·1	50·8	−0·4	57·8	2	41·2	14	51·1	1·7	·332	88
KIRKWALL, (Orkney.) James Begg, S.S.C.	30	July	29·804	58·0	47·7	52·8	−2·2	66·0	11, 24	39·0	16	53·2	2·0	·349	86
		Aug.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sept.	29·916	56·9	46·5	51·7	−0·8	65·5	26	38·0	15	52·2	1·9	·340	87
DUNROBIN, (Sutherland.) D. Melville, Gardener, Dunrobin Castle.	16	July	29·822	59·2	47·8	53·5	−2·9	71·0	9	40·0	14	53·8	3·0	·332	80
		Aug.	29·605	59·6	46·7	53·2	−3·0	65·0	9	38·0	20	53·3	2·6	·336	82
		Sept.	...	...	...	...	...	...	...	...	...	...	...	...	...
LAIRG, (Sutherland.) Rev. John K. Maclean.	390	July	29·407	62·4	45·2	53·8	−2·8	74·0	24	37·0	14	53·0	2·5	·335	83
		Aug.	29·196	61·4	46·0	53·7	−2·5	72·0	15	38·0	20	52·3	2·3	·331	84
		Sept.	29·475	61·8	42·7	52·2	−0·6	71·0	25	32·0	15	50·7	2·4	·310	84
GLENCARRON, (Ross.) D. D. Munro.	504	July	29·298	59·8	46·4	53·1	−1·9	71·1	25	36·6	14	52·9	3·0	·323	80
		Aug.	29·096	58·0	46·6	52·5	−2·7	66·0	8	41·3	18	52·0	2·3	·328	84
		Sept.	29·372	61·0	44·6	52·8	+1·6	69·8	21	33·0	14	52·4	3·6	·301	77
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	July	29·679	...	...	...	...	...	...	...	...	54·3	...	...	...
		Aug.	29·466	...	...	...	...	...	...	...	...	54·2	...	...	...
		Sept.	29·705	...	...	...	...	...	...	...	...	53·9	...	...	...
KINGUSSIE, (Inverness.) Dr Walter de Watteville.	828	July	28·956	61·8	45·2	53·5	−1·8	72·0	24	34·5	8	53·0	2·3	·340	84
		Aug.	28·770	59·5	43·9	51·7	−2·6	69·5	15	34·0	12	51·2	2·6	·311	83
		Sept.	29·059	59·5	41·9	50·7	+0·9	67·8	25	27·9	15	50·9	3·4	·289	78
INVERNESS, (Inverness.) Thos. Wallace, High School.	114	July	29·720	63·1	49·4	56·2	−1·7	70·0	25	43·0	6, 10	56·7	2·9	·376	82
		Aug.	29·520	61·3	49·4	55·3	−1·4	67·0	9	43·2	23	55·2	2·9	·355	82
		Sept.	29·811	60·8	46·6	53·7	+0·7	67·4	21	32·7	14	53·5	2·8	·334	81
FORT AUGUSTUS, (Inverness.) Rev. Cyril von Dieckhoff, St Benedict's Priory.	73	July	29·760	61·9	47·9	54·9	−2·6	72·0	25	37·4	14	55·2	2·9	·355	82
		Aug.	29·567	60·2	47·9	54·0	−3·5	66·0	23	39·0	23	53·5	2·3	·345	84
		Sept.	29·849	60·7	44·6	52·6	−0·4	69·1	21	32·5	15	52·0	2·7	·318	82
FORT WILLIAM, (Inverness.) R. T. Omond, F.R.S.E., and Angus Rankin.	42	July	29·802	62·0	48·5	55·2	−2·1	74·3	25	38·1	14	54·9	2·9	·350	81
		Aug.	29·621	60·8	48·5	54·6	−2·5	65·1	18, 23	39·8	23	53·6	2·5	·342	83
		Sept.	29·882	61·9	46·2	54·0	+0·7	72·0	20	33·8	15	53·4	3·7	·311	76
GORDON CASTLE, (Banff.) C. Webster, Gardener to the Duke of Richmond and Gordon.	107	July	29·720	62·8	48·0	55·4	−1·8	74·0	2	35·5	8	55·4	3·2	·350	80
		Aug.	29·521	62·0	46·7	54·3	−2·5	67·0	9, 15	39·0	19	54·3	3·2	·334	79
		Sept.	29·834	61·0	44·9	53·0	−0·3	69·0	23	36·6	16	52·9	3·2	·318	79
BRAEMAR, (Aberdeen.) James Aitken, Banker.	1114	July	28·650	60·1	45·3	52·7	−2·1	68·5	2	35·0	8, 19	53·0	3·0	·322	80
		Aug.	28·475	57·8	43·6	50·7	−2·9	63·2	2	35·4	30	51·2	2·9	·304	81
		Sept.	28·762	56·7	42·9	49·8	+0·3	65·7	23	27·0	15	48·8	2·4	·288	83
LOANHEAD, (Aberdeen.) Alex. Farquharson.	747	July	29·036	62·2	47·2	54·7	−1·0	73·2	2	35·0	8	54·6	2·4	·359	84
		Aug.	28·848	61·2	45·0	53·1	−2·0	67·0	12	36·8	30	53·1	2·1	·346	86
		Sept.	29·156	58·7	43·7	51·2	−0·1	67·3	26	29·8	15	50·3	2·1	·314	86

SCOTLAND for the Quarter ending 30th September 1903.

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
9·0	8	...	...	...	...	0	0	0	0	24	12	0	11	12	3	13	5	2	10	5	1	3·8
8·9	11	...	...	...	...	0	0	1	1	25	2	0	8	2	5	5	5	11	11	15	0	4·0
7·3	...	...	...	...	...	...	...	...	2	15	...	1	3	5	3	13	15	12	5	4	0	4·6
...	12	2·23	...	0·63	24	...	...	...	...	...	8	1	14	13	4	6	9	3	7	1	5	3·6
...	14	3·07	...	0·60	15	...	...	...	...	...	4	2	15	6	0	0	10	12	6	7	6	3·1
...	14	3·80	...	1·07	29	...	...	...	...	...	6	1	6	4	1	5	25	13	0	4	2	3·6
7·4	9	3·89	+ 0·84	1·58	5	0	0	1	2	14	7	0	11	5	9	10	3	2	13	9	0	3·2
6·9	18	4·27	+ 1·50	0·70	26	0	0	3	2	14	2	1	3	2	3	9	10	5	21	9	0	2·3
6·0	15	2·48	− 0·60	0·41	12	0	0	0	5	10	8	0	6	0	5	20	13	8	2	5	1	3·6
...	12	3·25	+ 0·64	1·60	5	...	...	...	...	...	...	0	2	8	12	10	12	2	16	0	0	2·9
...	18	7·38	+ 4·47	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	16	3·31	− 0·09	1·06	2	...	...	...	...	...	...	...	4	0	12	18	8	4	12	2	0	2·6
...	12	5·23	+ 2·56	2·28	5	0	0	0	...	...	0	0	4	10	6	13	6	3	7	13	0	...
...	16	3·94	+ 1·30	0·88	30	0	0	0	...	...	1	1	5	1	12	10	4	5	12	13	0	...
...	13	2·31	− 0·40	0·50	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
6·8	22	4·01	+ 1·05	1·28	5	0	0	3	1	11	0	1	0	6	18	1	2	0	19	8	8	2·8
7·5	27	7·81	+ 4·98	0·84	30	0	0	2	2	13	1	0	3	0	8	2	2	1	23	9	14	2·7
5·1	16	2·88	− 0·24	0·57	9	0	0	0	7	6	7	0	0	0	22	11	2	0	8	9	8	3·0
7·7	22	6·81	+ 0·99	1·52	3	0	0	0	1	17	0	0	15	0	18	0	1	0	27	0	1	3·9
7·3	29	12·31	+ 5·31	1·18	27	0	1	1	2	20	0	1	11	0	12	0	1	1	36	0	1	3·7
5·1	16	5·39	− 3·45	0·73	12	0	0	0	9	11	0	0	13	1	20	0	1	0	23	0	2	3·9
8·1	10	2·14	− 1·02	0·35	16	0	0	0	4	20	2	2	5	6	12	5	12	1	13	7	1	3·6
...	18	5·84	+ 2·13	0·90	27	0	0	0	...	...	0	2	8	2	3	3	10	10	16	8	2	3·8
6·4	18	2·72	− 1·55	0·54	1	0	0	0	4	9	0	1	6	0	8	15	15	8	4	3	1	5·2
8·1	20	3·65	+ 1·21	0·64	16	...	...	...	0	17	...	...	...	...	...	...	...	...	...	...	...	...
7·8	27	3·81	+ 0·99	0·53	30	...	...	...	1	15	...	...	...	...	...	...	...	...	...	...	...	...
7·1	14	2·15	− 0·88	0·35	11	...	...	...	3	15	...	...	...	...	...	...	...	...	...	...	...	...
...	18	3·80	+ 0·96	0·75	5	0	0	0	...	...	...	...	2	27	7	0	0	7	10	9	0	...
7·4	20	2·63	− 0·03	0·66	30	0	1	2	3	12	0	0	2	3	5	2	1	1	41	7	0	1·3
6·2	17	2·04	− 0·72	0·40	8	0	3	0	4	10	3	0	0	11	5	5	10	9	13	7	0	1·1
...	19	4·02	+ 0·97	0·78	5	0	0	0	...	...	0	3	4	20	1	2	20	4	0	1	10	3·0
...	25	5·86	+ 2·19	1·09	15	0	0	1	...	...	0	1	2	6	1	0	18	13	0	2	20	2·1
..	16	3·23	− 0·96	0·67	8	0	0	0	...	...	2	1	5	10	0	2	11	10	1	3	18	2·3
7·8	21	5·79	+ 0·88	1·69	5	0	0	1	0	16	0	0	5	2	3	3	5	19	9	2	14	0·9
8·8	28	11·98	+ 6·34	1·57	26	0	0	2	1	22	0	2	4	1	0	4	9	19	14	1	10	0·9
6·6	21	6·61	− 0·36	1·18	7	0	2	0	4	12	7	0	8	0	1	12	3	15	3	1	17	1·0
8·4	20	5·84	+ 2·81	1·40	6	0	0	2	0	18	0	0	2	8	3	14	3	14	6	12	0	...
7·6	26	5·12	+ 1·75	0·83	20	0	1	9	0	15	0	0	1	1	1	12	0	29	9	9	0	...
6·3	10	1·96	− 1·18	0·56	8	0	1	0	1	6	4	0	0	1	0	29	9	10	2	9	0	...
7·4	20	3·42	+ 0·59	0·86	26	0	0	1	0	10	1	1	6	7	12	5	4	20	5	3	0	1·4
6·9	27	4·31	+ 0·57	0·60	14	0	0	3	0	10	3	2	1	1	4	3	0	34	9	10	0	1·2
6·6	16	2·65	− 0·65	0·53	2	0	0	0	2	10	2	0	2	7	6	9	12	19	0	5	0	1·4
8·5	20	5·02	+ 2·07	0·95	16	0	0	0	0	21	0	1	2	6	4	10	0	1	8	15	16	1·2
7·1	23	3·64	+ 0·45	0·62	18	0	0	0	2	15	0	0	0	0	1	5	1	5	7	11	32	1·4
6·7	17	2·09	− 0·67	0·59	2	0	0	0	4	11	0	0	0	1	2	18	1	8	3	10	27	1·6

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
TILLYPRONIE, (Aberdeen.)	1120	July	28·644	60·1	45·0	52·5	−1·9	72·5	9	35·0	8	51·4	2·4	·318	84
Robt. Littlejohn, Gardener		Aug.	28·472	59·7	43·8	51·7	−2·1	64·5	2	36·1	30	50·5	2·7	·299	82
to Sir John F. Clark, Bt.		Sept.	28·754	56·7	43·2	50·0	+0·4	66·0	26	33·5	15	48·9	2·5	·287	83
ABERDEEN, (Aberdeen.)	44	July	29·781	61·8	48·9	55·3	−2·0	78·1	9	38·4	7	54·9	3·0	·349	80
Peter Harper, Superintendent,		Aug.	29·612	62·2	46·5	54·3	−2·7	70·0	27	37·5	24	54·0	2·4	·350	84
Duthie Park.		Sept.	29·927	58·8	45·9	52·3	−0·9	65·0	5, 26	32·8	15	51·5	2·3	·321	84
HADDO HOUSE, (Aberdeen.)	194	July	29·636	59·8	48·2	54·0	−2·9	74·0	9	38·5	8	54·0	2·4	·350	84
John Forrest, Gardener to		Aug.	29·452	61·5	45·8	53·7	−3·0	65·0	14	38·0	23, 31	53·6	2·4	·344	83
the Earl of Aberdeen.		Sept.	29·773	57·4	43·6	50·5	−1·6	65·5	3	29·0	16	50·3	2·3	·306	84
PETERHEAD, (Aberdeen.)	100	July	29·725	59·1	48·9	54·0	−3·2	74·7	9	40·5	8	53·4	2·9	·330	81
Dr W. H. M'Walter,		Aug.	29·538	60·2	47·7	54·0	−2·9	68·5	27	40·4	10	53·8	3·4	·322	79
H.M. Prison.		Sept.	29·862	57·7	45·8	51·8	−1·4	62·0	1	34·2	15	52·8	2·3	·333	83
CRATHES, (Aberdeen.)	145	July	29·681	62·9	47·6	55·2	...	79·0	9	36·0	8	55·7	3·2	·356	80
J. Smith, Pinewood.		Aug.	29·501	62·7	45·5	54·1	...	68·2	27	34·5	30	54·2	2·8	·342	81
		Sept.	29·806	59·0	53·9	51·4	...	67·0	26	27·0	15	51·3	2·2	·322	85
MONTROSE, (Forfar.)	200	July	29·624	60·7	48·8	54·8	−2·8	74·0	9	40·0	8	54·3	2·8	·344	81
(Royal Asylum),		Aug.	29·459	60·6	47·2	53·9	−3·1	65·0	7, 14	37·0	13	53·7	3·0	·332	80
Dr John G. Havelock.		Sept.	29·752	57·7	46·4	52·0	−0·8	64·0	1, 27	37·0	15	51·0	2·2	·318	85
ARBROATH, (Forfar.)	68	July	29·769	61·5	48·7	55·1	−2·4	73·0	9, 31	40·0	16	55·8	2·8	·367	82
James Campbell, "For the		Aug.	29·607	61·9	47·6	54·8	−2·4	66·5	2, 7	40·0	30	54·8	2·7	·354	83
Natural History Assoc. of		Sept.	29·896	58·5	46·7	52·6	−0·8	65·0	1	34·0	15	52·4	2·0	·340	87
Arbroath."															
DUNDEE, Eastern	164	July	29·660	65·5	49·4	57·5	−1·3	75·7	10	43·4	8	56·6	2·7	·380	82
Necropolis, (Forfar.)		Aug.	29·486	63·2	48·0	55·6	−1·9	69·3	12	39·8	25, 30	55·1	2·3	·369	85
J. Carnochan, Curator.		Sept.	29·898	59·1	46·1	52·6	−0·9	64·7	26	34·2	15	51·6	1·5	·343	90
DUNDEE, Harbour, (Forfar.)	20	July	29·825	66·5	48·9	57·7	−1·6	75·8	10	42·0	13	57·5	3·1	·383	80
J. Thomson, Jr.,		Aug.	29·648	63·8	49·9	56·8	−2·2	72·5	2	43·5	30	57·6	3·9	·364	77
Harbour Trust.		Sept.	29·961	61·5	47·6	54·5	−0·3	67·5	28	39·4	14	53·4	1·8	·358	88
LEDNATHIE, (Forfar.)	720	July	29·063	62·7	45·7	54·2	−1·8	72·5	10	34·0	14	54·0	3·8	·315	75
Wm. Morrison, Gardener		Aug.	28·887	61·4	42·5	52·0	−2·8	67·5	2	32·5	25	52·6	2·7	·326	81
to Patrick Stormonth		Sept.	29·195	57·9	43·5	50·7	−0·1	64·0	26	28·5	15	49·1	2·1	·297	85
Darling.															
BALRUDDERY, (Forfar.)	280	July	29·533	65·5	48·9	57·2	−1·8	80·0	10	41·0	6, 8	57·0	2·5	·391	84
R. Cairns, Gardener to J.		Aug.	29·368	64·0	46·9	55·4	−2·9	72·0	13	38·0	11, 30	55·2	2·2	·373	86
Martin White.		Sept.	29·674	60·0	45·1	52·5	−0·4	70·0	6	34·0	15, 16	52·3	2·4	·330	83
PERTH, (Perth.)	105	July	29·732	65·7	48·3	57·0	−1·6	74·5	9, 10	37·0	19	56·4	2·7	·377	83
John Leslie, Gardener to		Aug.	29·560	63·8	46·4	55·1	−2·4	70·4	14	37·0	23, 25	54·5	2·4	·357	84
Henry Coats.		Sept.	29·851	59·4	45·0	52·2	−1·1	66·5	1	29·0	15	51·6	2·1	·328	86
STRONVAR, (Perth.)	422	July	29·385	64·2	44·4	54·3	−2·7	71·0	24	37·0	27	55·3	3·0	·354	81
D. L. Mackintosh, Gardener		Aug.	29·223	63·1	43·1	53·1	−2·9	68·0	7	35·0	11, 30	53·2	2·8	·331	81
to James Carnegie.		Sept.	29·500	59·2	42·2	50·7	−1·3	66·0	1	27·0	16	50·2	2·6	·298	83
OCHTERTYRE, (Perth.)	333	July	29·486	65·8	48·4	57·1	−0·7	75·0	24	40·0	8, 14	56·1	3·4	·357	78
George Croucher, Gar-		Aug.	29·310	63·5	46·1	54·8	−2·0	70·0	1	38·0	23, 30	53·5	2·8	·334	81
dener to Sir Patrick		Sept.	29·602	60·3	45·5	52·9	+0·2	67·0	24	33·0	15, 16	51·1	1·7	·332	88
Keith Murray, Bart.															
CLATHICK, (Perth.)	300	July	29·526	65·7	48·7	57·2	...	74·0	25	39·0	14	56·3	3·3	·361	79
Alex. Hendry.		Aug.	29·346	63·9	46·2	55·0	...	74·0	1	38·0	23, 30	54·1	2·7	·343	81
		Sept.	29·638	60·2	45·2	52·7	...	65·8	2	33·0	15	51·1	1·9	·327	86

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
8·0	23	5·47	+ 2·77	0·93	6	0	0	0	0	12	3	1	2	7	0	22	0	5	2	24	0	3·6
6·8	23	3·49	+ 0·10	0·60	31	0	0	0	1	11	5	4	3	0	0	16	0	8	2	33	0	2·7
7·2	16	2·32	− 0·50	0·60	3	0	0	0	0	13	11	1	7	0	0	33	2	8	0	10	0	2·9
7·4	16	5·09	+ 2·19	1·20	16	0	0	1	2	14	1	1	3	4	1	18	11	11	0	14	0	3·0
6·1	21	4·34	+ 1·22	0·64	14	0	0	6	2	5	2	4	1	3	4	3	8	26	8	7	2	3·8
5·5	16	3·05	+ 0·18	0·89	2	0	0	0	2	6	5	0	1	2	1	13	17	17	5	4	0	2·5
...	15	5·92	+ 3·05	...	...	...	...	...	...	...	...	...	9	2	0	17	8	8	2	16	0	...
...	18	4·13	+ 1·10	...	...	...	...	...	...	...	...	...	2	1	0	10	9	12	10	18	0	...
...	16	3·13	+ 0·13	...	...	...	...	...	...	...	...	..	2	2	0	18	17	9	2	10	0	...
7·4	15	3·25	+ 0·67	...	...	0	0	0	0	14	4	2	8	2	5	6	11	2	5	17	6	3·4
7·0	22	3·64	+ 0·81	...	...	0	0	0	2	12	2	3	5	1	1	11	10	12	10	8	4	3·0
5·4	14	3·28	+ 0·22	...	...	0	0	0	5	10	8	1	4	1	1	12	22	6	2	9	3	3·2
7·7	21	4·89	...	0·95	16	0	0	2	1	18	2	0	7	10	3	18	1	2	8	11	7	2·2
6·5	23	4·65	...	0·95	14	0	0	5	3	12	1	2	0	3	0	8	6	16	13	9	7	2·7
5·7	18	3·08	...	0·87	2	0	0	0	6	10	7	1	1	2	5	17	5	9	6	4	11	2·4
...	14	5·46	+ 2·45	1·51	16	0	0	4	...	...	1	3	13	8	10	6	5	7	9	4	0	3·6
...	18	4·46	+ 1·37	1·17	30	0	0	6	...	...	0	2	1	4	3	5	15	9	21	4	0	3·4
...	12	2·89	+ 0·03	0·71	2	0	0	0	...	...	6	0	6	3	15	6	9	5	7	8	1	3·0
7·1	19	4·56	+ 2·78	1·60	16	0	0	3	1	7	1	1	3	9	14	4	4	6	12	10	0	2·4
6·5	20	3·80	+ 0·98	0·63	30	0	0	4	3	6	0	0	4	4	3	9	4	9	23	6	0	2·4
5·8	17	1·92	− 0·57	0·71	2	0	0	0	4	8	5	1	3	2	15	13	4	5	11	7	0	2·8
8·1	19	4·47	+ 1·40	1·63	16	0	0	2	0	16	0	2	1	14	0	19	1	10	6	11	0	2·1
7·8	20	5·35	+ 2·25	0·95	30	0	0	1	2	14	1	1	0	3	0	12	0	23	8	16	0	2·0
7·4	20	2·36	− 0·32	0·76	2	0	0	0	2	16	3	1	3	2	3	26	2	14	2	8	0	1·9
6·8	19	4·55	...	1·76	16	0	0	0	1	5	0	2	2	12	14	6	0	11	16	1	0	3·6
6·5	21	4·95	...	0·97	30	0	0	0	3	10	0	2	0	0	13	3	1	14	25	6	0	3·1
6·1	20	2·72	...	0·79	2	0	0	0	3	8	1	1	2	2	24	4	1	5	16	5	1	2·3
7·7	24	6·49	+ 2·82	1·43	5	0	1	6	0	13	2	2	6	5	2	16	7	1	12	11	2	3·2
6·2	25	7·04	+ 3·33	2·05	31	0	0	7	2	8	5	2	2	3	5	4	2	10	26	10	0	3·5
7·3	22	3·34	− 0·87	0·82	2	0	0	0	3	15	15	2	5	3	7	13	4	7	7	9	5	2·9
5·3	23	6·13	...	1·49	5	0	0	2	1	5	0	2	3	10	5	6	4	10	14	10	0	3·2
4·4	20	4·92	...	1·01	31	0	1	6	1	4	0	3	0	3	1	11	1	12	15	19	0	2·9
5·0	18	2·60	...	0·71	2	0	0	0	4	8	0	0	14	3	5	12	4	15	4	3	0	3·1
5·8	...	5·42	+ 2·31	...	...	...	...	...	3	7	...	...	1	3	12	4	3	10	17	6	6	0·9
5·7	...	3·67	+ 0·41	...	...	...	...	...	5	9	...	...	0	0	1	3	0	4	45	1	8	1·3
6·4	...	2·61	− 0·31	...	...	...	...	..	4	14	...	...	1	0	15	4	5	4	17	6	8	1·2
...	24	5·63	+ 0·97	1·14	5	...	...	...	...	...	...	...	0	2	16	2	0	12	22	8	0	...
...	30	10·69	+ 4·99	1·50	26	...	...	...	...	...	...	...	2	2	2	2	0	10	32	12	0	...
...	21	6·48	+ 0·16	1·43	23	...	...	...	...	...	...	...	0	4	20	8	4	4	10	10	0	...
6·9	17	4·21	+ 1·00	0·99	5	0	0	3	2	11	0	0	5	1	16	4	3	9	10	12	2	3·0
6·7	23	6·90	+ 3·08	1·20	31	0	0	4	1	10	0	1	0	0	9	2	0	14	24	10	3	3·0
6·9	21	3·49	+ 0·05	0·78	23	0	0	1	3	13	1	1	2	1	22	2	1	9	10	7	6	2·0
6·4	17	4·73	...	0·62	25	0	0	3	1	10	0	2	11	1	20	9	3	4	3	6	0	3·2
6·4	26	4·90	...	1·26	14	0	0	1	0	8	0	0	7	3	4	2	5	14	12	14	1	3·0
6·9	20	3·59	...	1·03	23	0	0	1	4	4	1	0	3	8	20	12	3	2	6	6	0	3·0

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER. Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of A. Maximum.	Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	i.cu.	%
CUPAR, (Fife.)	210	July	29·615	65·6	50·0	57·8	0·0	75·0	9	39·0	19	58·0	3·8	·372	77
Dr Turnbull, Fife and		Aug.	29·452	63·8	47·5	55·6	−1·2	68·0	7	40·0	30	54·8	2·4	·362	85
Kinross District Asylum.		Sept.	29·737	60·0	45·5	52·8	0·0	67·0	2	32·5	14, 5	52·4	2·7	·324	82
BUCHLYVIE, (Stirling.)	125	July	29·716	65·1	48·3	56·7	−0·6	75·0	9	39·5	7	56·7	2·8	·378	62
Rev. John A. Macdonald.		Aug.	29·548	62·4	47·0	54·7	−2·4	67·0	2, 7	37·5	25	54·6	2·2	·364	86
		Sept.	29·815	60·1	45·0	52·5	−1·0	65·0	18	30·0	15	51·3	1·8	·332	38
HELENSBURGH,	18	July	...	63·7	48·4	56·1	−1·3	71·5	11	41·1	23	55·9	2·4	·380	85
(Dumbarton.)		Aug.	...	63·2	47·9	55·6	−1·5	69·0	19	40·0	30	55·4	2·4	·371	85
J. R. Wilson, Waterworks.		Sept.	...	61·1	46·6	53·9	+0·4	68·5	19	30·7	14	53·5	2·1	·351	86
DUMBARTON, (Dumbarton.)	27	July	29·822	65·4	50·3	57·8	−0·4	73·0	3	41·7	14	57·8	3·0	·391	82
William Denny and		Aug.	29·662	63·9	49·5	56·7	−1·2	67·2	24	42·6	25	56·0	3·1	·363	80
Brothers.		Sept.	29·922	61·9	47·1	54·5	+0·2	67·5	19, 25	34·4	14	54·3	2·5	·352	83
LOCHBUIE, (Argyll.)	20	July	29·837	61·2	50·8	56·0	−1·6	68·3	3	45·0	21	55·8	3·2	·358	80
J. T. Mannary, Gardener to		Aug.	29·652	60·6	49·8	55·2	−1·4	67·5	16, 17	45·0	11, 12	54·7	2·5	·358	83
the Maclaine of Lochbuie.		Sept.	29·936	59·4	50·6	55·0	+0·3	65·9	21	38·5	14	55·4	2·6	·366	84
AIRDS, (Argyll.)	15	July	29·834	61·5	48·4	55·0	−1·8	70·0	25	40·0	7	54·8	2·8	·351	82
Colonel Macfie, C.B., and		Aug.	29·650	60·7	48·5	54·6	−2·2	65·0	24	40·0	17	54·6	3·0	·345	81
Alexander M'Lachlan.		Sept.	29·917	61·8	48·4	55·1	+1·3	71·0	21	38·0	14	54·9	2·5	·361	84
POLTALLOCH, Lochgilphead	135	July	29·710	64·0	48·9	56·4	−1·1	70·0	3, 26	40·0	14	55·4	2·3	·374	86
(Argyll.)		Aug.	29·540	62·7	48·4	55·6	−1·4	69·0	25	42·0	12	53·9	2·1	·357	87
D. S. Melville, Gardener		Sept.	29·796	61·5	46·7	54·1	+0·2	67·0	22	33·0	14	52·7	2·3	·336	85
ROTHESAY, (Isle of Bute.)	116	July	29·729	63·0	48·7	55·9	−1·4	71·5	9	40·2	14	55·0	2·9	·352	32
James Kay, Barone Cottage.		Aug.	29·580	62·5	48·3	55·4	−1·3	66·2	23	43·0	12, 25	53·8	2·8	·337	81
		Sept.	29·821	60·6	46·6	53·6	0·0	65·0	21	35·0	14	52·2	2·2	·332	85
GREENOCK, (Renfrew.)	238	July	29·603	62·8	49·4	56·1	−1·2	72·0	10	37·2	14	56·1	3·4	·357	78
Daniel Macalister, C.E.,		Aug.	29·440	61·5	48·2	54·8	−2·3	64·5	9	43·7	25	54·4	3·1	·338	80
Waterworks.		Sept.	29·689	60·0	46·9	53·4	0·0	67·2	25	37·0	15	53·0	2·6	·332	82
PAISLEY, (Renfrew.)	107	July	29·736	65·4	50·8	58·1	−0·4	74·9	9	43·2	14	57·6	3·4	·377	79
Donald Maclean,		Aug.	29·568	62·9	49·9	56·4	−1·6	67·8	25	42·9	25	55·8	2·9	·365	81
The Coats Observatory.		Sept.	29·814	60·8	46·9	53·8	−0·5	66·9	24	33·5	15	53·4	2·8	·332	82
KILMARNOCK (Ayr.)	...	July	29·783	62·6	48·0	55·3	...	72·3	2	36·5	14	56·0	3·1	·363	80
Glenfield & Kennedy, Ltd.		Aug.	29·625	61·5	47·3	54·4	...	65·0	14	36·8	25	54·8	2·9	·350	81
		Sept.	29·870	60·5	45·7	53·1	...	66·0	23, 24	29·0	14	54·2	2·5	·350	83
BOWHILL, (Ayr.)	978	July	28·809	60·4	46·2	53·3	−0·1	75·5	9	38·5	7	53·2	2·9	·328	81
Alexander Gillespie, C.E.		Aug.	28·644	58·8	45·7	52·2	−1·0	61·5	14, 26	40·5	25	52·2	2·8	·318	81
		Sept.	28·894	57·5	43·6	50·6	+0·5	64·5	20, 21	27·0	15	51·1	2·7	·308	81
GLASGOW, Belvidere Hosp.,	54	July	29·790	64·7	49·9	57·3	−1·4	75·6	2	42·2	14	57·6	2·8	·393	83
(Lanark.)		Aug.	29·634	63·6	48·9	56·2	−2·0	66·8	14, 18	40·0	25	56·0	2·2	·386	86
Dr John Brownlee.		Sept.	29·887	61·4	46·0	53·7	−0·6	71·4	24	32·0	15	53·7	2·6	·341	83
GLASGOW, Observatory,	184	July	29·655	62·8	50·9	56·8	−1·6	71·3	2	43·6	7	56·1	3·1	·364	80
(Lanark.)		Aug.	29·494	60·9	49·6	55·3	−3·3	63·3	8	42·9	15	54·5	2·7	·350	82
Prof. Becker, F.R.S.E.		Sept.	29·753	58·9	47·6	53·2	−0·7	64·1	23	36·0	15	52·3	2·3	·331	84
BOTHWELL, (Lanark.)	...	July	...	64·6	49·0	56·8	...	74·0	2	39·8	4	56·0	2·8	·370	82
Dr John T. Wilson.		Aug.	...	62·9	47·6	55·2	...	66·0	1, 12	37·6	25	54·2	2·5	·350	83
		Sept.	...	60·0	44·2	52·1	...	67·0	23	29·6	15	51·5	2·3	·321	84

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
6·0	15	3·27	+0·52	0·98	16	...	..	...	0	5	...	0	12	3	17	2	8	2	14	4	0	2·8
5·2	17	3·51	+0·27	1·00	10	...	...	...	2	5	...	0	8	1	10	1	1	3	33	5	0	2·6
5·1	17	1·81	−1·22	0·60	2	...	...	...	0	3	...	0	2	1	14	1	2	2	20	5	13	2·1
4·9	20	5·00	+1·70	1·01	16	0	1	2	5	5	0	1	4	2	11	8	1	4	25	4	3	2·2
5·5	28	7·55	+2·30	1·24	30	0	0	3	3	4	0	2	1	2	5	3	0	15	20	14	2	2·4
4·9	23	4·09	−0·13	1·13	23	0	0	1	7	8	2	0	0	6	17	6	3	7	9	7	5	2·2
...	17	4·08	+0·87	0·58	4	...	...	...	...	...	...	...	0	0	16	2	0	10	32	2	0	...
...	28	8·05	+3·87	1·21	31	...	...	...	...	...	...	...	0	0	10	4	4	10	22	12	0	...
...	16	4·54	+0·34	0·81	23	...	...	...	...	...	...	...	0	10	10	8	6	8	8	10	0	...
...	18	4·78	+1·60	0·48	16	...	...	...	..	..	...	0	2	2	8	0	0	4	10	12	24	0·8
...	26	6·34	+2·20	0·98	30	...	...	...	...	...	...	0	2	4	4	2	4	4	8	18	16	1·1
..	16	3·81	−0·35	0·90	23	...	...	...	...	..	...	0	6	0	10	8	4	2	6	4	20	1·0
6·2	20	7·19	...	1·51	5	0	0	0	...	...	2	0	12	4	8	4	2	26	0	6	0	2·3
6·0	26	11·04	...	1·50	31	0	0	1	...	...	1	2	2	6	4	4	10	20	10	4	2	3·0
6·5	17	4·97	...	1·11	1	0	0	0	...	...	0	2	4	8	14	10	8	8	6	2	0	2·2
8·0	16	6·15	...	...	...	...	...	...	0	18	...	0	11	0	12	6	6	5	20	2	0	2·8
8·0	17	8·11	...	...	...	...	...	...	0	21	...	1	10	2	1	0	11	6	31	1	0	4·2
6·7	16	3·81	...	...	...	...	...	...	3	12	...	0	9	1	15	7	18	3	7	0	0	2·4
7·4	19	3·78	−0·47	0·61	5	0	0	0	2	16	0	0	2	3	1	4	7	18	5	3	19	2·2
8·6	29	8·63	+3·93	0·79	30	0	0	0	0	20	0	0	5	1	0	6	16	12	12	5	17	2·3
6·4	16	3·10	−2·22	0·56	8	0	1	0	5	13	0	2	5	2	1	12	6	14	1	1	18	2·8
7·4	22	4·71	+0·76	0·74	5	0	0	0	2	15	0	0	1	8	5	5	2	7	15	12	7	1·6
7·6	27	9·50	+4·92	1·26	14	0	0	2	2	18	0	0	1	5	1	3	9	8	21	6	8	2·0
6·0	16	3·72	−0·83	0·63	4	0	0	0	5	13	0	0	4	5	11	7	12	2	4	4	11	2·0
7·0	21	5·04	+1·16	0·72	5	0	0	1	0	12	0	0	0	1	14	5	0	11	18	12	1	3·0
7·4	28	9·80	+4·43	1·32	30	0	0	1	0	8	0	3	0	2	1	8	0	13	20	17	1	3·2
7·5	18	5·00	−0·91	0·95	7	0	0	0	1	3	2	0	0	4	6	23	0	4	10	12	1	2·6
7·0	20	4·10	+1·27	0·79	15	0	0	1	2	14	0	0	9	3	12	2	8	2	17	8	1	1·8
6·2	25	8·78	+5·45	1·46	30	0	0	3	0	8	0	0	3	0	5	2	11	1	27	9	4	2·3
5·9	16	3·93	+0·21	0·79	23	0	0	0	2	9	11	0	4	5	16	6	5	6	6	7	5	1·9
5·7	20	3·39	...	0·76	14	0	0	0	0	4	0	0	1	5	7	4	1	12	25	7	0	1·3
5·7	21	5·93	...	1·10	15	0	0	1	0	3	0	0	0	1	7	1	3	20	24	4	2	1·6
4·4	14	3·06	...	0·71	23	0	0	0	3	2	0	0	5	6	10	6	5	11	11	6	0	2·6
7·3	17	2·79	...	0·71	15	...	...	...	0	8	...	0	3	1	8	7	14	7	12	10	0	2·3
7·4	24	4·28	...	0·70	16	...	...	...	0	8	...	0	4	0	3	5	16	9	19	6	0	2·3
6·8	16	2·61	...	0·68	23	...	...	...	0	6	...	0	2	1	13	14	18	3	5	4	0	2·2
7·1	17	3·19	+0·13	0·68	15	0	0	0	0	8	0	0	10	3	33	0	0	0	9	6	1	1·0
7·3	25	5·78	+2·29	1·05	30	0	1	2	0	13	0	0	3	5	17	0	0	3	19	11	4	2·0
6·2	16	3·43	+0·08	0·68	7	0	0	0	3	8	7	0	0	2	37	0	1	2	18	1	4	1·2
7·6	17	3·17	+0·03	0·64	15	0	0	0	1	17	0	0	0	3	9	5	3	9	14	13	6	1·2
7·8	26	6·53	+2·72	1·10	30	0	0	2	0	11	0	1	0	1	3	1	2	15	19	3	18	1·2
7·2	15	3·48	−0·10	0·67	23	0	1	1	0	12	5	0	0	1	14	5	5	7	5	3	20	1·0
...	15	3·29	+0·54	0·80	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	24	5·17	+2·25	0·79	18	...	...	...	...	...	...	...	...	...	..	...	..	...	...	...	...	...
...	18	2·55	+0·08	0·37	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.	°	°	°	°	°		°		°	°	inch.	%
LEADHILLS, (Lanark.) James M'Farlane.	1300	July	...	61·5	42·7	52·1	...	68·5	11	35·1	7	52·9	2·3	·339	85
		Aug.	...	58·2	41·2	49·7	...	62·0	25	37·0	11	50·5	1·8	·322	88
		Sept.	...	53·6	39·3	46·5	...	58·5	26	27·0	14	46·2	1·9	·270	87
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. Copeland, F.R.S.E.	441	July	29·379	63·0	50·0	56·5	−0·4	74·6	2	42·5	7	55·2	3·1	·350	81
		Aug.	29·220	61·6	49·1	55·4	−0·4	64·8	27	44·2	30	54·3	3·1	·336	79
		Sept.	29·487	58·9	47·2	53·0	+1·0	66·2	1	37·1	14	51·9	2·4	·324	85
CORSTORPHINE, (Edinburgh.) Dr T. N. Johnston.	165	July	29·672	65·3	49·5	57·4	...	73·2	30	39·5	8	56·7	3·2	·368	80
		Aug.	29·504	63·6	47·6	55·6	...	67·8	22	40·3	18	54·8	3·2	·343	80
		Sept.	29·784	61·5	45·9	53·7	...	67·3	18	38·5	15	52·5	2·5	·328	83
LEITH, (Edinburgh.) James Bolam, Navigation School, and George Redpath.	76	July	29·767	64·8	51·7	58·2	−0·2	76·6	2	43·1	8	57·5	3·8	·365	77
		Aug.	29·599	63·1	51·0	57·0	−0·7	67·1	27	44·9	23	56·3	3·8	·349	76
		Sept.	29·882	60·6	48·6	54·6	+0·4	67·1	4	36·9	15	53·7	2·9	·334	81
DALKEITH, (Edinburgh.) J. Whytock, Gardener to the Duke of Buccleuch.	190	July	29·646	65·7	50·1	57·9	−0·1	78·0	2	42·0	8	57·0	3·3	·369	79
		Aug.	29·482	63·0	49·0	56·0	−1·0	70·0	4	42·0	24	55·8	2·9	·365	81
		Sept.	29·753	60·2	46·5	53·4	+0·1	66·1	26	34·0	15	52·8	2·4	·335	84
SMEATON, (Haddington.) John Black, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	July	29·738	66·3	49·6	58·0	−1·4	78·0	2	40·0	8	58·7	3·7	·384	77
		Aug.	29·581	63·9	48·4	56·1	−2·2	72·0	2	41·0	23	56·5	3·0	·371	81
		Sept.	29·856	60·2	46·2	53·2	−0·7	68·0	1	35·0	15	52·5	2·2	·336	85
MARCHMONT, (Berwick.) John A. Wood, Gardener.	500	July	29·309	63·2	47·7	55·4	−1·5	75·0	9	39·0	8	55·9	2·7	·372	83
		Aug.	29·157	61·6	46·7	54·1	−2·2	66·0	6	40·0	11	55·0	3·1	·347	80
		Sept.	29·440	59·3	44·7	52·0	−0·2	66·0	23	34·0	16	52·4	2·2	·335	85
DUNS CASTLE, (Berwick.) Robert Aikman, Gardener to R. Mordaunt Hay.	500	July	29·314	63·2	48·6	55·9	−0·9	74·0	9	39·0	8	55·8	2·6	·373	83
		Aug.	29·160	62·2	46·4	54·3	−1·7	66·8	13	39·0	30	55·0	2·9	·352	82
		Sept.	29·443	60·6	44·1	52·3	−0·1	66·4	2, 23	33·0	16	53·2	2·2	·344	85
STOBO CASTLE, (Peebles.) William Young, Gardener to Sir B. T. G. Montgomery, Bart.	600	July	29·212	64·4	46·3	55·4	−1·4	78·0	2	37·0	14	56·2	2·8	·372	82
		Aug.	29·061	61·5	47·0	54·2	−1·6	65·0	8	36·0	23	53·6	2·5	·342	83
		Sept.	29·324	59·4	43·8	51·6	−0·3	67·0	25	27·0	15	51·1	2·4	·315	83
BROOMLANDS, (Roxburgh.) James Brunton.	205	July	29·637	64·4	48·7	56·5	−1·4	76·0	2	41·0	8	56·7	2·9	·376	82
		Aug.	29·491	63·2	45·9	54·6	−2·6	67·0	12, 13	38·0	12	54·6	1·9	·373	88
		Sept.	29·758	60·9	44·2	52·6	−0·7	66·5	4, 23	32·5	13	52·3	2·3	·331	84
WOLFELEE, (Roxburgh.) William Gordon, Gardener to J. T. S. Elliot.	537	July	29·270	64·3	45·8	55·0	−1·8	75·7	9	33·0	8	55·3	3·1	·351	80
		Aug.	29·132	63·4	44·2	53·8	−1·4	67·0	4, 23	37·0	30	53·0	2·6	·332	82
		Sept.	29·345	60·5	42·9	51·7	−0·9	69·0	23	28·0	15, 16	51·1	1·9	·327	86
DRUMLANRIG, (Dumfries.) David Inglis, Gardener to the Duke of Buccleuch.	191	July	29·647	64·6	48·9	56·7	−1·3	76·0	9	36·0	14	56·3	2·5	·382	84
		Aug.	29·518	62·7	46·6	54·6	−2·4	68·0	23	36·0	11	54·3	2·5	·352	83
		Sept.	29·753	61·2	44·2	52·7	−0·8	68·0	25	28·0	15	52·0	2·0	·335	86
DUMFRIES, (Dumfries.) Rev. William Andson.	60	July	29·795	66·7	50·2	58·4	−0·5	80·0	2	41·0	7, 8	57·7	3·5	·376	78
		Aug.	29·662	65·8	48·3	57·0	−1·2	71·0	1, 23	39·0	22	56·2	3·2	·362	80
		Sept.	29·903	62·8	46·1	54·4	−0·2	69·3	18	31·7	15	53·6	2·3	·347	84
CARGEN, (Kirkcudbright.) Alex. Peacock, Gardener to Colonel Dudgeon.	85	July	29·773	65·1	49·4	57·2	−1·3	76·0	2	40·0	7, 20	57·9	2·8	·397	83
		Aug.	29·634	64·0	48·2	56·1	−1·7	70·0	1	39·0	22	56·6	2·7	·380	82
		Sept.	29·874	61·7	45·4	53·6	−0·9	67·0	19, 23	30·0	15	54·2	1·7	·372	89

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
				Most in a day.																		
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Amount.	Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
...	12	4·42	...	1·23	16	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	25	7·42	...	1·20	15	...	...	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	16	2·49	...	0·37	30	...	...	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6·5	16	3·82	+1·00	1·00	16	0	0	4	1	7	0	0	5	7	6	8	5	11	19	6	0	2·5
6·1	22	2·56	−0·33	0·73	1	0	0	2	2	7	0	1	0	1	3	1	8	25	23	1	0	3·0
5·6	14	2·03	−0·24	0·77	2	0	2	1	4	6	5	0	2	0	12	7	16	9	13	0	1	2·6
...	21	4·06	...	0·90	16	...	...	...	...	...	...	...	8	0	19	1	2	0	31	0	1	2·1
...	23	3·19	...	0·88	1	...	...	...	...	...	...	...	7	0	6	0	3	0	42	0	4	2·6
...	19	2·04	...	0·76	2	...	...	...	...	...	...	...	10	1	15	0	8	0	20	0	6	1·9
6·9	21	4·11	+1·09	0·87	16	0	0	4	3	14	0	0	6	4	11	7	7	5	18	3	1	3·0
6·3	21	3·71	+0·73	0·89	2	0	2	5	2	10	0	2	0	1	4	3	2	12	35	2	3	3·2
5·6	18	2·34	0·00	0·78	2	0	1	0	6	9	4	0	2	1	17	4	11	8	9	3	5	3·0
...	...	...	...	...	...	0	0	1	3	13	0	0	1	9	3	2	1	27	9	10	0	1·4
...	...	...	...	...	...	0	0	3	3	12	0	1	1	2	1	4	0	40	8	6	0	1·5
...	...	...	...	...	...	0	0	0	4	10	0	0	2	1	3	9	6	26	8	5	0	1·7
5·9	18	4·74	+1·59	0·94	16	0	0	1	...	...	2	1	5	4	10	1	28	9	8	2	0	...
4·6	15	3·83	+1·55	0·91	2	0	0	6	4	11	0	1	0	0	8	9	9	24	10	2	0	...
4·8	10	2·27	−0·13	1·18	2	0	0	0	3	4	5	0	7	0	7	6	15	14	8	3	0	...
6·7	13	4·90	+1·46	0·80	26	0	0	4	3	12	0	0	11	0	16	1	8	4	20	2	0	2·2
5·7	21	4·36	+0·40	1·36	1	0	0	4	6	9	0	1	1	1	7	4	8	13	26	2	0	2·1
6·4	17	2·84	−0·26	1·19	2	0	2	2	4	15	5	0	5	5	27	4	3	6	9	1	0	3·1
7·7	16	5·40	+2·29	0·64	26	0	0	4	0	16	0	0	21	0	1	0	9	14	16	1	0	3·0
6·8	16	4·26	+1·17	0·82	1	0	0	0	2	11	0	2	4	0	4	0	7	18	29	0	0	2·7
7·2	12	2·67	−0·33	0·98	2	0	0	0	2	13	0	0	14	0	9	3	21	7	5	1	0	2·1
6·0	15	3·50	+0·65	...	...	0	0	1	...	...	...	...	14	2	8	1	18	4	14	1	0	3·0
5·6	19	4·50	+1·38	...	...	0	0	6	4	8	0	2	4	1	0	5	13	12	25	2	0	3·2
5·2	11	1·80	−1·17	...	...	0	1	1	5	9	2	1	5	1	9	8	20	4	12	0	0	2·6
7·0	15	4·17	+1·30	0·78	27	0	0	2	0	8	1	0	0	11	8	1	0	5	32	0	5	1·1
6·2	21	3·38	+0·52	1·06	1	0	0	0	2	3	0	0	0	0	5	1	1	14	36	1	4	1·4
5·8	19	2·35	−0·19	1·04	2	0	0	0	2	8	2	0	2	3	1	11	3	13	11	0	16	0·9
7·1	15	4·44	+1·28	1·02	28	0	0	1	0	10	0	0	1	8	1	5	1	3	43	0	0	2·1
7·0	20	3·93	+0·51	0·54	9	0	0	2	3	9	0	0	5	5	1	3	12	14	16	6	0	2·4
6·3	17	4·18	+0·98	1·85	2	0	0	1	4	12	1	0	0	3	0	12	0	21	19	5	0	2·3
...	14	4·19	+0·71	1·12	14	0	0	1	...	...	0	0	1	4	0	6	5	10	9	27	0	...
...	26	7·07	+3·26	0·97	14	0	0	2	...	...	0	1	2	5	1	1	6	18	9	20	0	...
...	17	3·84	−0·13	0·84	2	0	0	1	...	...	0	0	9	1	0	9	10	20	3	8	0	...
...	15	3·96	+0·76	1·33	14	0	0	1	...	...	0	0	0	4	6	7	8	17	10	8	2	2·2
...	22	4·35	+0·50	0·66	26	0	0	0	...	...	0	2	1	2	2	3	8	25	17	4	0	2·6
...	16	3·39	−0·31	0·90	2	0	0	0	...	...	1	0	1	2	10	14	10	12	4	6	1	2·2
6·6	14	5·01	+1·69	1·74	14	0	0	2	0	6	0	0	2	0	7	8	16	12	8	9	0	1·8
6·5	14	5·02	+0·97	0·83	26	0	0	3	0	5	0	1	1	0	2	1	10	14	23	11	0	2·4
6·5	15	3·80	−0·05	0·93	2	0	0	0	1	5	0	0	3	6	7	6	22	5	5	6	0	2·1

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903. Months.	BAROMETER. Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	AIR TEMPERATURE. Mean of A. Maximum.	AIR TEMPERATURE. Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.	°	°	°	°			°		°	°	inch.	%
CALLY, (Kirkcudbright.) **Wm. Thomson, Gardener to H. G. Murray Stewart of Broughton.**	120	July	29·737	65·3	49·2	57·2	−0·7	72·2	9	39·8	12	56·9	3·0	·375	81
		Aug.	29·598	64·0	46·9	55·5	−1·6	69·0	25	39·0	22	55·6	2·2	·380	85
		Sept.	29·822	61·4	45·0	53·2	−0·7	67·8	24	31·0	15	53·0	1·9	·350	87
BEN NEVIS OBSERVATORY, (Inverness.) R. T. Omond, F.R.S.E., and Angus Rankin.	4407	July	25·360	43·1	36·5	39·8	−1·3	49·6	25	27·7	7	39·8	0·6	·232	95
		Aug.	25·189	41·1	35·0	38·0	−2·4	49·0	27	31·0	21	37·6	0·1	·223	99
		Sept.	25·405	40·4	34·0	37·2	−0·8	50·0	26	24·3	14	37·3	0·9	·205	93

RECORD OF SUNSHINE.

STATIONS.	1903. Months.	SUNSHINE. Total Observed.	Difference from Average.	Per centage of Possible.
		hours.	hours.	%
DEERNESS, (Orkney.)	July	128·8	−13·8	24
	Aug.	130·9	+12·4	28
	Sept.	133·4	+26·9	35
INVERNESS, (Inverness.)	July	112·5	−29·5	21
	Aug.	105·4	−14·0	22
	Sept.	146·6	+51·8	39
FORT AUGUSTUS, (Inverness.)	July	104·8	+ 9·5	20
	Aug.	82·9	− 6·1	18
	Sept.	95·8	+16·9	25
FORT WILLIAM, (Inverness.)	July	141·0	+12·2	27
	Aug.	92·2	− 8·7	20
	Sept.	125·9	+30·4	33
BALRUDDERY, (Forfar.)	July	178·8	...	34
	Aug.	192·7	...	41
	Sept.	116·2	...	31
PAISLEY, (Renfrew.)	July	145·0	+ 1·0	28
	Aug.	155·8	+23·8	34
	Sept.	112·5	+ 5·5	30
GLASGOW, (Lanark.)	July	144·4	+ 1·5	28
	Aug.	161·1	+32·4	35
	Sept.	126·7	+28·4	34
EDINBURGH, (Edinburgh.)	July	164·2	...	31
	Aug.	189·3	...	41
	Sept.	132·6	...	35
MARCHMONT, (Berwick.)	July	148·8	−23·2	29
	Aug.	180·3	+25·9	39
	Sept.	128·8	+14·7	34
BEN NEVIS OBSERVATORY, (Inverness.)	July	75·6	− 9·4	14·4
	Aug.	23·2	−34·8	4·9
	Sept.	67·4	+ 4·6	17·6

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
...	17	4·19	+ 0·42	1·19	14	0	0	1	...	...	0	0	1	4	0	11	6	17	8	15	0	1·1
...	21	4·83	+ 0·28	0·74	30	0	0	1	...	...	0	1	8	6	1	4	2	17	4	18	4	1·6
...	15	4·75	+ 0·05	0·73	8	0	0	0	...	...	0	0	5	9	1	16	6	6	3	14	0	2·2
8·6	28	13·26	+ 2·47	2·41	3	3	3	1	2	26	26	2	12	4	8	8	6	8	6	4	6	1·7
9·5	29	20·97	+ 7·62	2·49	27	12	6	4	1	28	28	2	10	6	2	6	6	12	8	10	2	1·9
8·0	15	10·72	− 4·28	1·47	7	9	3	0	3	20	20	8	4	2	8	16	14	6	4	0	6	3·0

UNDERGROUND TEMPERATURE.

STATIONS.	1903.	UNDERGROUND TEMPERATURE.				
		Depth in Inches.				
	Months.	3	12	22	36	48
		°	°	°	°	°
DUNROBIN, (Sutherland.)	July	55·5	57·3	56·9	...	...
	Aug.	55·6	57·2	57·2	...	...
	Sept.	...	...	...	...	...
HADDO HOUSE, (Aberdeen.)	July	57·8	58·2	57·1	...	...
	Aug.	56·0	56·6	56·3	...	...
	Sept.	51·5	52·8	58·2	..	...
ARBROATH, (Forfar.)	July	55·9	55·6	54·6	...	..
	Aug.	55·1	55·4	55·1	...	..
	Sept.	52·3	52·8	52·4	...	..
OCHTERTYRE, (Perth.)	July	56·8	57·3	56·0	53·8	53·0
	Aug.	54·9	56·5	56·0	55·0	54·0
	Sept.	52·1	53·5	53·7	58·2	53·3
POLTALLOCH, (Argyll.)	July	59·4	60·5	59·2	..	...
	Aug.	57·5	59·6	58·6	...	...
	Sept.	53·7	55·5	54·9	...	...
PAISLEY, (Renfrew.)	July	57·3	56·7	57·0	...	...
	Aug.	55·9	55·6	56·6	...	...
	Sept.	51·9	52·4	54·2	...	...
CORSTORPHINE, (Edinburgh.)	July	58·9	58·5	57·8	...	...
	Aug.	56·7	57·4	57·4	...	...
	Sept.	52·8	54·1	53·5	...	...
SMEATON, (Haddington.)	July	60·8	60·9	58·3	...	...
	Aug.	59·3	59·8	58·1	...	...
	Sept.	53·9	55·1	54·4	...	...
MARCHMONT, (Berwick.)	July	58·5	57·6	57·5	...	...
	Aug.	55·7	55·7	56·7	...	...
	Sept.	51·6	52·4	53·3	...	...

Continuation of page 163.]

The mean temperature was 54°·4, or 2°·2 below the normal, the days being 2°·1 and the nights 2°·3 below their respective averages. The mean was 0°·5 above the corresponding mean for 1902, but with that exception the month was colder than any August since 1885 when the mean was 53°·6. Temperature was everywhere deficient, by less than 1°·0 in the Edinburgh district, by less than 2°·0 towards the South-West of the country, by larger amounts towards the North, and by as much as 3°·5 at Fort-Augustus. There was a notable absence of high temperatures, only about one-fifth of the stations reporting a maximum of 70°·0 or over. Temperature differed little from the average at the beginning of the month, but thereafter at most places remained almost continuously below the mean, the coldest week being that ending on the 22nd, the mean temperature of which showed at Aberdeen and Fort-William a defect of 3°·7, and at Ochtertyre of 5°·5. The absolutely highest temperature was 74°·0 at Clathick on the 1st, and the lowest 32°·5 at Lednathie on the 25th.

The mean rainfall was 5·53 inches, or 53 per cent. above the average, the month being the wettest August since 1877, when the mean was 6·35 inches. At Inverness and in Nairnshire rainfall was just about the average, but over the country generally there was a decided excess which was relatively greater in Western districts than in Eastern, and least in Roxburghshire and on the South Coast. At Lairg and Paisley the monthly amount was more than two and a half times, and at Fort-William and Rothesay more than twice the average. At about half of the stations the amounts were at least 50 per cent. above the average, and at Lednathie, Stronvar, Greenock, and Drumlanrig there was an excess of fully 80 per cent. In the Edinburgh district there was an excess of 25 per cent., on the Borders of about 15, and at Dumfries and Cally of less than 10. The largest daily amounts reported were 2·05 inches at Lednathie on the 31st, and 1·57 inch at Fort-William on the 26th. At Stronvar there was only one rainless day, and at Glencarron only two, whilst towards the South-East rain fell less frequently The period from the 15th to 25th was the least rainy time of the month. On Ben Nevis the monthly amount was 20·97 inches, or 7·62 inches above the mean.

Thunder was unusually frequent during the month, most of the occurrences being between the 11th and 23rd. It was reported at least once in most districts and at Gordon Castle on no fewer than 9 days.

The weather of the month was in general very unsettled, especially on the West Coast, and on the 26th and 30th gales were generally reported.

SEPTEMBER 1903—

Hence the weather of SEPTEMBER 1903 was characterised by a rather high mean barometric pressure; a mean temperature slightly below the average, with a mean daily range slightly above; a slightly low mean humidity; a slightly low mean rainfall, falling on the average number of days; a very large excess of winds of rather less than average force from a South-Easterly quarter.

The mean barometric pressure was 29·956 inches, or 0·113 inch above the average. Lowest readings were everywhere recorded on the 10th, and highest on the 14th or 15th, the extremes at Leith, at sea-level, being 29·326 inches on the 10th, and 30·550 inches on the 14th.

The mean temperature was 52°·5, or 0°·3 below the normal, the days and nights being both below their respective averages by that amount. Few of the stations differed from their average by as much as 1°·0. In the Edinburgh district there was a slight excess, but elsewhere in Eastern counties a deficiency, whilst towards the N.W. of the country temperature was in general above the average. The month opened with fairly high temperatures, but thereafter a spell of cold weather set in with winds from E. and S.E. and with lowest temperatures generally on the 15th, on which day the thermometer fell below 32°·0 at about one third of the stations, ground-frost occurring for two or three days in succession in many districts. During the last ten days of the month temperature was again high, with highest readings for the month at most places between the 23rd and 26th. The absolutely highest temperature was 72°·0 at Fort-William on the 20th, and the lowest 27°·0 at Braemar and Crathes on the 15th.

The mean rainfall was 3·20 inches, or 11 per cent. below the average. At Wolflee there was an excess of 31 per cent., and at Aberdeen, Paisley, and one or two other places, the amounts were fractionally above the average. But in general there was a deficiency, slight in Southern and Eastern districts, but becoming more pronounced towards the North and West. Thus Berwickshire and Midlothian had rainfalls within 10 per cent. of the average, whilst Gordon Castle, Nairnshire, and Glencarron had an excess of nearly 40 per cent., and Braemar, Kingussie, Fort-Augustus, Inverness, and Stornoway of between 20 and 30 per cent. Most of the rain was registered during the first ten days of the month, and at stations in E. and S.E. heavy falls occurred on the 2nd, Wolflee reporting 1·85 inch on that day. From the 13th to 21st hardly any rain fell in any district, and at several Northern stations but little thereafter; but at most places towards the end of the month the weather again became wet and unsettled. On Ben Nevis the monthly amount was 10·72 inches, or 4·23 inches below the mean.

Thunder was reported in Midlothian and the Border counties on the 11th, and in Central Perthshire on the 30th. An Aurora was observed at Fort-William on the night of the 19th.

Dense fogs occurred on the East Coast from the 23rd to 27th, and in the North from the 23rd to 30th.

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 31st DECEMBER 1903.

By Dr **Buchan**, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 60 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N. ; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1903.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
Oct.	29·447	52·5	41·8	47·1	69·0	25·0	47·0	1·8	·280	87	27	7·57	7·1	*
Nov.	29·906	46·9	36·2	41·5	58·2	15·0	41·3	1·8	·223	86	19	3·21	6·0	
Dec.	29·684	40·8	32·1	36·4	57·0	11·5	36·8	1·2	·195	90	18	3·39	6·9	*

1903.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS										Thunder heard.	
	3 Inches	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0- 2.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
Oct.	47·6	49·0	49·9	51·1	51·6	4	8	8	8	9	13	10	4	3	2·6	11	1
Nov.	41·2	43·1	44·0	47·2	48·3	5	3	3	2	5	10	17	11	4	2·5	2	1
Dec.	36·8	37·9	38·8	42·4	43·5	4	8	8	12	9	9	7	3	7	2·1	0	0

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these results are compared with the averages of 1856–1900, during the same months, they show the following characteristics and differences :—

OCTOBER 1903—
Mean Barometric Pressure, 29·447 inches; less than the average of 1856-1900 by 0·365 inch.
Mean Temperature, 47°·1 ; greater by 0°·6.
Mean Daily Range of Temperature, 10°·7 ; less by 1°·3.
Mean Humidity, 87 per cent. ; being the average.
Rain, Number of Days, 27 ; greater by 10 days.
Rain, Depth in Inches, 7·57 ; greater by 3·53 inches.
Wind, Mean Force (on Scale of 0-12), 2·6 ; less by 0·2.
Wind, Direction of, a 4 days' excess of winds from between S.E. and S.W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·1 ; greater by 0·7.

NOVEMBER 1903—
Mean Barometric Pressure, 29·906 inches ; greater than the average of 1856–1900 by 0·076 inch.
Mean Temperature, 41°·5; greater by 0°·6.
Mean Daily Range of Temperature 10°·7 ; greater by 0°·3.
Mean Humidity, 86 per cent.; less by 2·0.
Rain, Number of Days, 19 ; greater by 3 days.
Rain, Depth in Inches, 3·21 ; less by 0·63 inch.
Wind, Mean Force (on Scale of 0–12), 2·5 ; less by 0·3.
Wind, Direction of, a 6 days' excess of winds from W. and N.W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·0 ; less by 0·5.

DECEMBER 1903—

Mean Barometric Pressure, 29·684 inches; less than the average of 1856–1900 by 0·096 inch.
Mean Temperature, 36°·4; less by 1°·6.
Mean Daily Range of Temperature, 8°·7; less by 0°·9.
Mean Humidity, 90 per cent.; greater by 2·2.
Rain, Number of Days, 18; greater by 1 day.
Rain, Depth in Inches, 3·39; less by 0·77 inch.
Wind, Mean Force (on Scale of 0–12) 2·1; less by 0·7.
Wind, Direction of; a 6 days' excess of winds from between E., S.E., and S.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·9; greater by 0·4.

OCTOBER 1903—

Hence the weather of OCTOBER 1903 was characterised by an abnormally low mean atmospheric pressure; a slightly high mean temperature, with a rather low mean daily range; an average mean humidity; an abnormally high mean rainfall, falling on 10 days more than the average number; a considerable excess of winds of moderate force from a Southerly quarter.

The mean barometric pressure was 29·447 inches, being 0·365 inch below the average, and much lower than any mean for October since observations were organised in 1856, the next lowest being 29·587 inches in 1872. At most places the pressure, reduced to sea-level, reached 30 inches only on the 18th, the extremes at Leith being 30·046 inches on the 18th and 28·849 inches on the 12th.

The mean temperature was 47°·1, or 0°·6 above the normal, the days being of average temperature and the nights 1°·3 above. In all Southern counties there was a well-marked excess, amounting at Edinburgh to as much as 2°·4, whilst north of the Forth and Clyde a few stations showed a deficiency, several had temperatures practically equal to the average, and only a few, such as Dundee and Ochtertyre, an excess of as much as 1°·0. The month opened with fairly high temperatures, the maximum for the month at most places being recorded on the 1st. A colder spell of weather followed, with lowest readings generally on the 10th, but thereafter variations were very slight and temperature remained almost continuously above the average except for low readings on 24th and 29th. At about one-third of the stations shade readings below 32°·0 were not recorded. Ground frost was frequently reported from Braemar, but was seldom noted at low-lying places, and occurred at Paisley only on the 10th, and at Edinburgh only on the 10th and 29th. The absolute maximum was 69°·0 at Haddo House on the 1st, the minimum being 25°·0 at Stronvar on the 10th.

The mean rainfall was 7·57 inches, or 87 per cent. above the normal, being the highest mean on record for October. South of a line drawn from the mouth of the Tay to Mull nearly every district reported considerably more than double the average amount, though at Cally (Gatehouse) there was an excess of only 54 per cent. The relative excess was less in northern districts, but at only two or three stations was it below 40 per cent. Only about two-fifths of the stations had a fall of less than 6 inches, whilst about one-fifth had a fall of more than 10, the heaviest falls being 15·71 inches at Lochbuie, 15·58 at Stronvar, 14·39 at Leadhills, 13·43 at Glencarron, and 12·46 at Fort-William. At Stronvar, Glasgow, Broomlands, and one or two other places, rain fell on every day of the month, whilst many places had only one or two rainless days, the average number of rainy days being 27, or no less than 10 above the normal. The wettest periods of the month were from 3rd to 8th, and from 24th to 29th. About half the stations reported a fall exceeding an inch on some one day of the month, the heaviest daily fall being 2·61 inches at Glencarron on the 15th, whilst at Edinburgh, Paisley, and other places the monthly average was exceeded by the aggregate of the first 10 days. On Ben Nevis the monthly amount was 18·66 inches, or 3·24 inches above the mean of nineteen years.

The month was abnormally wet and unsettled, the weather being especially stormy from 11th to 16th. Thunder was reported in the Border counties on 25th and 26th.

In the North an Aurora was observed on the 13th and again on the 31st. The occurrence on the 31st was of a very brilliant character, and was associated with a "magnetic storm" of great intensity.

NOVEMBER 1903—

Hence the weather of NOVEMBER 1903 was characterised by a somewhat high mean barometric pressure; a slightly high mean temperature, with a slightly high mean daily range; a low mean humidity; a somewhat low mean rainfall, but falling on 3 days more than the average number; a very large excess of winds of moderate force from W. and N.W.

The mean barometric pressure was 29·906 inches, or 0·076 inch above the normal. During the first eight days of the month pressure was decidedly high, at many places exceeding 30·5 inches at sea-level on the 5th and 6th. Lowest readings occurred generally on the 28th, the extremes at Leith being 30·558 inches on the 6th and 29·180 inches on the 28th.

The mean temperature was 41°·5, or 0°·6 above the normal, the days being 0°·8 and the nights 0°·5 above their respective averages. In Shetland, Orkney, and North-Eastern Coast districts temperature was below the average, but in nearly all other parts there was an excess, amounting at about a fourth of the stations to fully 1°·0. The month opened with readings much above the average, but low temperatures were recorded in Central and Southern districts from 6th to 8th, the sheltered minimum falling on the 7th to 24°·0 at Perth and 24°·9 at Edinburgh. Thereafter cyclonic conditions prevailed with higher temperatures, the maximum for the month generally occurring on the 12th. Again from 16th to 18th temperature was low under the influence of Northerly winds, and, after a few days of milder weather, the month closed with a severe frost, with lowest readings everywhere on the 30th, when the sheltered minimum fell below 20°·0 at Wolfelee, Stobo, Leadhills, and a few other stations. The absolute maximum was 58°·2 at Inverness on the 14th, the minimum being 15°·0 at Leadhills on the 30th.

The mean rainfall was 3·21 inches, or 16 per cent. below the normal. In Northern districts there was a decided excess, amounting to 66 per cent. at Wick, 53 at Dunrobin, and 24 at Inverness. At Fort Augustus and Fort William the monthly amounts were practically equal to the average, whilst at Braemar there was a defect of 47 per cent., and in all Central and Southern districts the month was a dry one. The defect was as much as 78 per cent. at Lednathie, and in most districts of the counties of Perth, Forfar, and Fife less than half the average amount was registered. In the Border counties the defect was more than 40 per cent., in the Lothians from 30 to 40, in the Clyde area from 20 to 30, whilst in the extreme South-West it was only about 10 per cent. The rainiest periods were the 1st and 2nd, from the 8th to 14th, and from the 21st to 28th. In the South-Eastern counties about a third of the monthly total was due to heavy falls on the 28th. The heaviest daily falls were 2·38 inches at Fort William on the 23rd, and 2·19 inches at Glencarron on the same day. On Ben Nevis the monthly amount was 17·27 inches, or 2·68 inches above the average.

Snow fell in Northern districts about the middle and towards the end of the month, and on the 27th a snowstorm was general over the country. The weather was very stormy on the 21st and 22nd.

DECEMBER 1903—

Hence the weather of DECEMBER 1903 was characterised by a low mean barometric pressure; a low mean temperature, with a rather low mean daily range; a high mean humidity; a rather low mean rainfall, but falling on one day more than the average number; a very large excess of winds of moderate force from a S.E. quarter.

The mean barometric pressure was 29·684 inches, or 0·096 inch below the normal. Pressure was lowest from the 4th to the 11th, and highest towards the end of the month, the extremes at Leith, at sea-level, being 30·271 inches on the 28th and 28·888 inches on the 8th.

The mean temperature was 36°·4, or 1°·6 below the normal, the days being 2°·0 and the nights 1°·1 below their respective averages. Temperature was slightly above the average at Deerness, but everywhere on the mainland was below the average, the defect being less than 1°·0 at one or two places on the East Coast, between 1°·0 and 2°·0 at the majority of stations, whilst at Fort Augustus and Inverness it was more than 3°·0, and at Lairg as much as 4°·5. The 1st, 2nd, 5th and 6th were very cold days, and thereafter brief mild and cold spells alternated until the 24th, when a severe frost lasting until the end of the month became general over the country. Highest temperatures occurred almost everywhere on the 22nd, and lowest, except at one or two stations, on the 2nd or 30th. The absolute maximum was 57°·0 at Glencarron on the 21st, and the minimum 11°·5 at Kingussie on the 2nd and at Fort Augustus on the 30th.

The mean rainfall was 3·39 inches, or 19 per cent. below the normal. At Lednathie there was an excess of 44 per cent., and at Montrose and Perth of 12, whilst in Central Perthshire and Bute rainfall was just equal to the average. Elsewhere there was a deficiency, which in Southern Scotland increased from West to East and as regards the country generally was greatest in Northern districts. Thus Paisley was deficient by 7 per cent. and Greenock and Drumlanrig by 10, whilst in Midlothian only half, and in East Lothian less than half the average was registered. In the North, Glencarron and Lairg were deficient by 60 per cent. and Inverness by 70. At Dundee the deficiency was only 8 per cent., at Braemar 11, and at Aberdeen 17. The wettest days were 2nd, 7th, 13th, 21st and 22nd, and except on the East Coast but little rain fell after the 22nd. The heaviest daily falls reported were 2·00 inches at Greenock, 1·73 at Glencarron and 1·66 at Fort William, all on the 2nd, and 1·72 inch at Stronvar on the 21st. On Ben Nevis the monthly amount was 6·81 inches, or 12·30 inches below the average.

Snow fell in most districts on the 2nd and on one or two days thereafter. At Lednathie it was noted on 13 days and at Stobo on 6.

The weather was stormy on the 2nd, 3rd, 7th, and 21st, but in general the wind force was light, the month being marked, except in Northern districts, by dense land fogs and absence of sunshine. At Glasgow, sunshine was recorded only on the 1st; and at Paisley, fog occurred on 17 days.

Auroras were observed at Kingussie, Inverness, and Monach on 13th; Edinburgh on 18th; Ben Nevis on 25th; and Cape Wrath on 31st.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.	•	inch.		°	°	°	-		-		°	-	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	Oct.	29·202	...	...	...	...	...	...	...	...	45·9	...	...	...
		Nov.	29·454	...	...	...	...	...	...	...	...	41·5	...	...	...
		Dec.	29·430	...	...	...	...	...	...	...	...	41·4	...	...	...
LERWICK, (Shetland.) G. ALLISON, Harbour Master.	30	Oct.	29·406	50·9	42·9	46·9	...	58·0	2	34·0	24	47·0	2·0	·275	86
		Nov.	29·707	46·8	37·9	42·3	...	51·0	6, 12	26·0	27	41·8	1·8	·227	86
		Dec.	29·649	43·6	38·2	40·9	...	47·0	22	28·0	2	41·6	1·9	·224	86
DEERNESS, (Orkney.) M. SPENCE, Schoolhouse.	172	Oct.	29·248	50·1	43·2	46·7	+0·2	56·6	1	37·4	10	47·0	2·5	·264	83
		Nov	29·606	46·2	38·1	42·2	−0·1	52·0	12	27·2	26	42·1	2·0	·226	85
		Dec.	29·473	43·0	38·0	40·5	+0·5	48·0	22	30·8	1	41·8	1·8	·217	86
KIRKWALL, (Orkney.) JAMES BEGG, S.S.C.	30	Oct.	29·400	51·5	42·9	47·2	+0·1	59·0	1, 2	31·0	8	47·7	1·9	·285	87
		Nov.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dec.	...	...	...	...	...	...	...	...	...	...	...	...	...
DUNROBIN, (Sutherland.) D. MELVILLE, Gardener, Dunrobin Castle.	16	Oct.	29·401	51·7	41·7	46·7	−0·4	64·0	2	33·0	7, 24	46·7	2·0	·272	86
		Nov.	29·822	47·3	35·7	41·5	−0·2	55·0	14	25·0	30	41·0	1·7	·221	86
		Dec.	29·631	42·0	32·4	37·2	−1·7	49·0	21	24·5	30	37·0	1·3	·195	89
LAIRG, (Sutherland.) Rev. JOHN K. MACLEAN.	390	Oct.	...	51·7	38·9	45·3	−0·8	61·8	1	26·0	10	...	...	...	...
		Nov.	29·404	44·6	33·8	39·2	−0·5	54·8	4	20·0	30	38·8	1·1	·215	91
		Dec.	29·164	37·5	27·6	32·6	−4·5	49·6	21	14·0	30	32·4	0·6	·171	93
GLENCARRON, (Ross.) D. D. MUNRO.	504	Oct.	28·873	50·3	40·0	45·1	−0·2	60·9	1	29·0	10	45·3	1·9	·259	86
		Nov.	29·331	45·6	36·4	41·0	+0·5	55·2	13	19·0	30	41·5	2·5	·211	81
		Dec.	29·089	39·7	30·4	35·1	−2·8	57·0	21	18·0	1	35·3	1·9	170	82
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	Oct.	29·218	...	...	...	...	...	...	...	...	49·1	...	...	...
		Nov.	29·722	...	...	...	...	...	...	...	...	45·0	...	...	...
		Dec.	29·413	...	...	...	...	...	...	...	...	42·0	...	...	...
KINGUSSIE, (Inverness.) Dr WALTER DE WATTEVILLE.	828	Oct.	28·553	50·5	39·1	44·8	+1·0	60·8	1	28·5	10	44·6	1·9	·252	86
		Nov.	28·985	44·7	32·2	38·4	+0·1	53·0	1	19·5	29, 30	38·5	1·8	·193	86
		Dec.	28·759	38·7	27·9	33·3	−2·1	49·5	22	11·5	2	34·0	1·2	·172	87
INVERNESS, (Inverness.) THOS. WALLACE, High School.	114	Oct.	29·297	52·6	41·9	47·2	+0·3	65·4	1	33·7	10	47·5	1·8	·285	87
		Nov.	29·760	47·7	38·6	43·1	+1·5	58·2	14	26·8	30	43·3	2·2	·233	82
		Dec.	29·524	38·9	31·2	35·0	−2·7	50·1	21	20·6	30	35·7	1·0	·172	91
FORT AUGUSTUS, (Inverness.) Rev. CYRIL VON DIECKHOFF, St Benedict's Priory.	73	Oct.	29·335	51·9	40·9	46·4	−0·4	63·8	1	26·5	10	46·5	1·2	·288	91
		Nov.	29·818	47·6	36·6	42·1	+0·6	56·4	13	20·1	30	41·4	1·5	·230	89
		Dec.	29·571	40·9	30·5	35·7	−3·4	54·0	22	11·5	30	36·5	1·5	·197	87
FORT WILLIAM, (Inverness.) R. T. OMOND, F.R.S.E., and ANGUS RANKIN.	42	Oct.	29·372	52·6	42·8	47·7	+0·1	63·3	1	29·2	10	47·4	2·1	·277	85
		Nov.	29·875	47·4	37·9	42·6	+0·5	55·2	14	22·2	30	42·9	2·3	·228	83
		Dec.	29·571	42·2	32·7	37·5	−2·5	54·1	21	20·4	30	38·0	1·9	·192	84
GORDON CASTLE, (Banff.) C. WEBSTER, Gardener to the Duke of Richmond and Gordon.	107	Oct.	29·300	53·7	41·3	47·5	+0·7	66·0	1	35·0	10	47·7	2·8	·266	81
		Nov.	29·726	47·8	35·8	41·6	+0·2	55·3	1	25·6	26, 27	41·6	2·6	·210	80
		Dec.	29·542	41·0	31·0	36·0	−2·7	54·5	22	21·1	30	36·9	1·6	·189	87
BRAEMAR, (Aberdeen.) JAMES AITKEN, Banker.	1114	Oct.	28·256	48·5	39·2	43·8	+0·9	57·0	1	29·2	10	44·3	1·7	·254	87
		Nov.	28·666	43·9	33·3	38·6	+1·1	51·2	12	20·2	30	38·7	1·8	·200	85
		Dec.	28·472	37·0	27·5	32·2	−2·3	47·8	22	21·4	30	33·0	0·8	·171	91
LOANHEAD, (Aberdeen.) ALEX. FARQUHARSON.	747	Oct.	28·636	51·0	40·1	45·5	+0·9	64·0	2	31·1	24	45·9	1·2	·283	93
		Nov.	29·052	45·5	33·3	39·4	+0·9	55·1	1	21·8	27	39·6	1·7	·210	86
		Dec.	28·867	37·8	29·1	33·4	−2·9	50·8	22	21·4	30	34·8	0·6	·190	94

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
8·8	21	...	...	...	...	2	0	0	0	22	1	0	8	13	10	7	19	2	2	1	0	4·7
9·1	23	...	...	...	...	9	0	0	0	23	0	5	10	4	8	6	11	6	3	12	0	5·0
7·7	20	...	...	...	...	1	0	0	2	17	0	0	1	2	0	13	22	17	6	0	1	4·2
...	22	6·59	...	1·18	24	0	0	0	...	...	0	2	10	5	7	10	17	5	0	6	2	4·0
...	17	3·85	...	0·93	19	6	0	0	...	...	0	6	16	6	0	0	7	11	7	10	3	3·9
...	24	3·83	...	0·58	2	1	0	0	...	...	0	6	2	0	6	7	24	13	4	0	6	5·2
6·3	21	5·12	+ 1·31	0·75	24	0	0	0	3	12	0	3	8	6	10	12	11	7	4	4	0	3·4
6·3	19	4·61	+ 0·71	0·74	14	4	1	0	1	9	0	3	5	2	2	2	7	12	10	20	0	3·8
6·0	13	2·71	− 1·19	0·81	8	1	0	0	3	9	0	2	3	1	3	12	27	9	2	1	4	3·6
...	23	5·57	+ 1·41	0·68	24	...	...	...	...	...	...	...	0	2	14	12	16	4	10	4	0	3·1
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	22	4·63	+ 1·36	0·65	24	0	0	0	...	...	0	2	6	7	10	7	8	5	8	11	0	...
...	16	4·78	+ 1·56	0·87	14	2	0	0	...	...	0	0	10	3	0	3	2	8	12	22	0	...
...	12	1·42	− 2·02	0·40	2	0	0	0	...	...	2	0	9	3	4	8	6	5	5	22	0	...
...	25	6·01	+ 2·10	0·65	15	1	0	0	...	...	1	2	...	...	...	...	...	...	...	...	...	...
6·5	16	4·72	+ 1·01	0·76	27	6	0	0	1	1	1	0	10	1	2	4	4	1	17	9	12	2·7
5·9	11	2·20	− 1·72	1·03	2	2	0	0	5	12	9	0	3	0	2	22	0	1	7	0	27	1·8
8·0	29	13·43	+ 4·06	2·61	15	0	0	0	0	20	0	0	19	1	22	0	0	0	20	0	0	3·8
8·0	28	11·69	+ 2·42	2·19	23	4	0	0	2	21	0	0	8	0	8	0	2	0	40	0	2	3·8
5·0	16	4·37	− 6·24	1·73	2	0	0	0	9	11	0	0	23	0	21	0	0	0	17	0	1	3·7
7·7	26	6·12	+ 1·28	0·95	15	0	0	0	2	17	0	3	7	6	11	12	7	9	2	7	1	5·0
8·9	21	4·36	− 0·64	0·52	14	4	2	0	0	20	0	4	10	5	0	2	8	9	13	13	0	5·4
7·7	22	4·12	− 1·64	0·80	2	4	0	0	1	14	0	4	6	0	7	14	20	3	4	7	1	5·2
8·7	28	4·34	+ 1·19	0·70	15	0	1	0	0	20	...	...	...	...	...	...	...	...	...	...	...	...
7·8	16	3·42	+ 0·37	0·82	23	1	0	0	0	16	...	...	...	...	...	...	...	...	...	...	...	...
8·1	11	1·60	− 1·76	0·40	2	1	0	0	0	17	...	...	...	...	...	...	...	...	...	...	...	...
7·8	28	4·81	+ 2·38	1·02	15	0	1	0	1	20	7	1	1	3	12	2	2	19	16	6	1	0·9
6·9	22	3·08	+ 0·62	0·60	27	5	0	0	2	11	3	1	10	3	0	1	1	10	30	5	0	1·3
7·2	11	0·76	− 1·73	0·20	2	2	2	0	5	14	17	4	6	3	2	0	3	23	14	3	8	0·6
...	30	7·30	+ 2·97	1·21	15	0	0	0	...	...	2	2	10	10	2	0	8	15	4	1	12	2·7
...	22	4·66	− 0·11	1·44	23	7	0	0	...	...	0	1	2	2	0	2	18	12	3	0	21	1·9
...	17	3·03	− 2·75	0·96	2	3	0	0	...	...	3	3	3	6	0	4	11	9	5	4	20	1·9
8·6	30	12·46	+ 5·12	1·80	4	0	0	1	0	25	1	1	6	7	5	3	4	13	3	1	20	1·0
8·0	23	7·51	− 0·15	2·38	23	2	0	0	0	18	1	1	4	4	3	1	5	13	12	2	16	1·2
8·0	19	5·22	− 4·16	1·66	2	1	0	0	2	20	4	2	2	7	1	10	9	8	0	1	24	0·8
7·7	26	4·31	+ 1·16	0·72	27	0	0	0	0	12	...	...	0	7	3	21	7	18	0	6	0	...
6·9	23	3·64	+ 0·84	0·42	20	4	4	1	2	10	...	...	2	2	1	3	9	29	3	11	0	...
6·2	10	1·02	− 1·77	0·64	7	0	0	0	1	7	...	...	0	2	0	22	15	22	1	0	0	...
8·3	29	5·39	+ 1·43	0·82	27	0	0	0	0	18	1	0	9	5	1	9	4	31	1	2	0	1·2
6·8	20	1·99	− 1·75	0·36	13	7	0	0	0	10	0	3	6	5	0	0	5	26	6	12	0	1·9
7·3	19	2·91	− 0·37	0·79	22	3	0	0	0	15	5	1	1	2	3	8	15	33	0	0	0	0·6
7·2	23	5·43	+ 2·18	1·14	27	0	0	0	2	14	...	1	1	1	2	15	0	5	8	9	21	...
5·8	22	2·83	− 0·13	0·43	30	0	0	0	6	12	...	2	0	2	1	0	0	6	11	22	18	...
6·9	24	3·36	+ 0·46	0·92	10	2	0	0	4	14	...	2	1	11	2	16	0	6	5	3	18	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
TILLYPRONIE, (Aberdeen.) ROBT. LITTLEJOHN, Gardener to Sir John F. Clark, Bt.	1120	Oct.	28·250	49·9	38·3	44·1	+0·6	61·6	2	30·0	7, 24	44·2	1·8	·250	86
		Nov.	28·642	44·4	32·8	38·6	+0·9	55·1	7	20·3	30	38·4	1·8	·197	84
		Dec.	28·462	37·3	29·5	33·4	−1·4	50·0	22	21·3	6	34·4	1·2	·175	87
ABERDEEN, (Aberdeen.) PETER HARPER, Superintendent, Duthie Park.	44	Oct.	29·419	52·1	42·0	47·1	−0·2	61·2	2	33·5	24	47·5	2·0	·281	86
		Nov.	29·820	46·0	34·6	40·3	−1·0	54·0	12	24·0	27	40·3	1·8	·214	86
		Dec.	29·655	40·5	31·9	36·2	−2·0	51·0	22	19·5	3	36·7	1·3	·193	89
HADDO HOUSE, (Aberdeen.) JOHN FORREST, Gardener to the Earl of Aberdeen.	194	Oct.	29·242	53·1	40·7	46·9	+0·8	69·5	1	32·0	11	46·3	1·4	·281	89
		Nov.	29·661	46·2	33·9	40·1	−2·0	54·5	5	24·0	30	39·0	1·4	·210	89
		Dec.	...	...	...	...	...	...	...	...	...	...	...	...	...
PETERHEAD, (Aberdeen.) Dr W. H. M'WALTER, H.M. Prison.	100	Oct.	29·331	53·1	42·6	47·9	−0·2	61·0	1	31·6	25	48·3	1·6	·299	89
		Nov.	29·738	47·6	35·7	41·6	−0·7	53·3	12	24·5	30	41·9	1·4	·237	90
		Dec.	29·587	42·2	33·9	38·0	−1·8	49·0	22	24·0	2	39·0	1·4	·210	89
CRATHES, (Kincardine.) J. SMITH, Pinewood.	145	Oct.	29·292	52·4	40·4	46·4	...	63·0	2	29·3	24	46·7	2·2	·268	85
		Nov.	29·714	46·3	32·6	39·4	...	55·2	12	22·2	7	38·7	1·6	·204	87
		Dec.	29·533	39·7	29·6	34·6	...	52·0	22	19·0	2	34·9	0·9	·185	91
MONTROSE, (Forfar.) (Royal Asylum), Dr JOHN G. HAVELOCK.	200	Oct.	29·241	51·8	42·2	47·0	+0·1	62·0	2	34·0	24	46·4	1·8	·273	87
		Nov.	29·672	46·3	35·7	41·0	+0·0	54·0	4, 12	26·0	30	40·5	1·6	·219	87
		Dec.	29·488	40·1	32·2	36·2	−1·8	52·0	22	25·0	2	36·8	1·1	·197	91
ARBROATH, (Forfar.) JAMES CAMPBELL, "For the Natural History Assoc. of Arbroath."	68	Oct.	29·381	52·9	42·8	47·8	+0·9	63·0	2	34·0	24	48·0	1·8	·290	87
		Nov.	29·824	47·7	35·8	41·8	+1·6	56·5	12	26·0	30	41·5	1·7	·227	87
		Dec.	29·628	42·1	33·5	37·8	−0·5	51·5	22	26·0	6	38·5	1·3	·207	89
DUNDEE, Eastern Necropolis, (Forfar.) J. CARNOCHAN, Curator.	164	Oct.	29·282	54·3	41·3	47·8	+1·3	63·8	1	32·2	24	46·6	2·2	·273	88
		Nov.	29·730	48·9	35·0	42·0	+1·4	56·8	12	26·0	30	41·0	2·0	·215	84
		Dec.	29·523	41·8	31·0	36·4	−1·0	54·2	22	22·6	30	36·1	0·8	·198	93
DUNDEE, Harbour, (Forfar.) J. THOMPSON, Jr., Harbour Trust.	20	Oct.	29·440	54·2	43·7	48·9	+1·5	63·0	1	36·0	10	48·6	2·2	·290	85
		Nov.	29·891	48·7	37·6	43·1	+1·1	56·8	12	26·5	30	43·5	2·1	·237	83
		Dec.	29·690	42·3	32·9	37·6	−1·4	53·2	23	26·8	18	38·2	1·4	·202	88
LEDNATHIE, (Forfar.) WM. MORRISON, Gardener to Patrick Stormonth Darling.	720	Oct.	28·672	50·9	38·3	44·6	+0·5	62·5	2	30·0	7, 24	44·3	1·4	·260	89
		Nov.	29·103	46·0	31·9	38·9	+0·0	54·1	5	20·0	28	39·1	2·1	·198	83
		Dec.	28·906	38·4	28·7	33·5	−1·8	50·3	22	19·5	5, 30	33·8	0·9	·176	90
BALRUDDERY, (Forfar.) R. CAIRNS, Gardener to J. Martin White.	280	Oct.	29·149	54·4	40·7	47·5	+1·1	68·0	2	31·0	24	46·6	2·1	·269	86
		Nov.	29·595	49·4	34·5	41·9	+1·2	58·0	6	24·0	30	41·4	2·2	·216	84
		Dec.	29·384	39·4	30·8	35·1	−2·0	49·0	22	22·0	30	35·7	1·4	·184	87
PERTH, (Perth.) JOHN LESLIE, Gardener to Henry Coats.	105	Oct.	29·335	52·7	40·4	46·6	+0·4	62·5	1	27·0	10	46·4	1·8	·273	87
		Nov.	29·798	47·4	34·4	40·9	+0·0	54·0	12	21·5	30	40·8	1·9	·216	85
		Dec.	29·581	40·3	29·4	34·8	−2·4	52·5	22	19·0	2, 30	34·9	1·2	·179	89
STRONVAR, (Perth.) D. L. MACKINTOSH, Gardener to James Carnegie.	422	Oct.	28·985	50·8	40·1	45·4	−0·2	63·0	2	25·0	10	45·3	1·9	·259	86
		Nov.	29·457	46·5	34·3	40·4	+0·6	54·0	12	19·0	30	40·0	2·1	·205	83
		Dec.	29·222	38·1	30·2	34·2	−2·7	52·0	22	15·0	30	34·2	0·9	·180	90
OCHTERTYRE, (Perth.) GEORGE CROUCHER, Gardener to Sir Patrick Keith Murray, Bart.	333	Oct.	29·082	53·4	41·5	47·4	+1·1	66·0	2	31·0	10	46·0	1·2	·283	92
		Nov.	29·547	48·2	35·0	41·6	+1·6	57·0	12	25·0	30	40·3	2·0	·210	84
		Dec.	29·326	40·4	31·2	35·8	−1·0	51·0	22, 23	19·0	30	35·6	0·9	·193	92
CLATHICK, (Perth.) ALEX. HENDRY.	300	Oct.	29·122	52·8	41·3	47·0	...	65·0	3	30·0	10	45·5	1·4	·272	90
		Nov.	29·585	48·4	35·0	41·7	...	56·4	13	25·4	30	40·7	2·2	·210	83
		Dec.	29·362	39·9	30·7	35·3	...	51·2	23	18·8	30	35·3	0·6	·195	95

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
7·8	24	5·05	+ 1·93	1·05	27	0	0	0	0	10	1	0	1	5	0	26	1	20	0	9	0	3·3
6·7	20	2·36	− 0·44	0·65	28	8	0	0	1	9	1	1	2	6	0	13	0	3	1	35	0	2·8
7·5	23	2·49	− 0·18	0·83	11	2	0	0	0	16	9	3	12	1	0	32	0	3	1	13	0	2·8
6·1	21	4·66	+ 1·60	0·65	27	0	0	0	2	10	0	1	2	4	4	7	17	16	8	4	0	2·5
4·8	21	3·38	+ 0·23	0·60	27	5	0	0	6	2	0	0	1	2	0	0	5	27	12	13	0	2·5
5·4	16	2·79	− 0·59	0·64	7	1	0	0	3	4	1	1	0	0	0	8	26	22	4	2	0	2·2
...	21	4·58	+ 1·18	...	...	...	...	...	...	...	...	...	1	5	1	11	14	13	4	13	0	...
...	20	2·58	− 0·53	...	...	...	...	...	...	...	...	...	6	1	0	3	5	12	15	18	0	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6·4	20	4·30	+ 0·84	...	...	0	0	0	1	9	0	1	6	0	5	11	25	5	0	8	2	4·0
5·0	20	2·42	− 0·81	...	...	3	2	0	7	8	0	2	4	1	0	1	13	15	4	17	5	4·1
6·0	13	1·59	− 1·46	...	...	0	2	0	2	9	1	3	3	0	3	13	24	6	4	3	6	4·0
6·3	26	7·07	...	1·37	27	0	1	1	4	13	2	3	3	5	1	15	10	11	9	4	4	2·6
5·2	22	2·24	...	0·43	27	6	0	0	7	9	1	4	3	1	0	2	9	5	19	12	9	2·6
6·3	21	4·49	...	1·20	7	3	0	0	6	16	3	3	0	1	3	18	9	9	10	4	8	2·2
...	21	4·79	+ 1·88	0·75	11	0	0	1	...	...	1	1	9	2	8	1	20	8	12	2	0	3·4
...	8	1·57	− 1·17	0·63	14	3	0	0	...	...	0	2	6	0	1	2	6	7	17	21	0	3·8
...	14	3·20	+ 0·34	0·84	13	1	1	0	...	...	2	1	5	1	2	13	20	5	11	5	0	3·1
5·8	24	4·20	+ 1·77	0·70	6	0	0	1	4	10	0	1	4	5	4	13	7	13	11	5	0	3·0
4·5	10	1·09	− 1·30	0·39	28	3	1	0	5	4	3	2	3	1	1	2	3	14	19	17	0	2·0
5·8	18	1·84	− 0·70	0·45	13	2	0	0	6	7	2	2	9	0	8	20	6	6	6	7	0	2·2
8·6	27	5·34	+ 2·67	0·70	6	0	0	0	0	21	0	2	0	6	3	18	3	18	7	7	0	2·6
6·9	14	0·94	− 1·66	0·20	2	1	0	0	3	11	0	3	0	3	1	3	1	17	12	23	0	2·3
9·0	18	2·54	− 0·22	0·60	13	1	0	0	1	26	5	2	2	10	1	21	0	10	9	9	0	1·6
6·6	27	5·53	...	0·81	7	0	0	0	2	10	0	1	0	1	13	9	2	8	26	3	0	2·9
4·9	15	1·07	...	0·20	2	1	0	0	10	4	0	3	0	1	2	5	0	6	43	3	0	2·9
6·8	21	2·21	...	0·58	14	1	0	0	1	16	2	3	0	1	7	18	2	9	22	3	0	2·7
7·8	26	8·89	+ 4·35	1·53	11	0	0	0	2	15	0	2	2	5	7	5	7	17	10	9	0	3·0
5·0	19	1·06	− 3·70	0·30	13	8	0	0	6	7	0	3	4	1	0	1	4	0	10	35	5	3·2
7·4	24	6·18	+ 1·88	1·12	13	13	0	0	6	18	7	2	7	4	1	19	4	5	7	8	7	1·8
5·4	29	5·70	...	0·66	28	0	0	0	3	7	0	0	4	9	1	11	4	19	7	7	0	3·0
4·0	14	1·03	...	0·18	27	3	0	0	1	1	0	4	8	8	0	1	0	13	14	16	0	3·6
7·3	21	2·79	...	0·53	14	3	0	0	0	15	0	3	13	5	6	14	6	5	5	6	0	3·1
6·2	...	6·16	+ 3·00	...	...	0	0	0	4	10	0	0	1	0	8	16	7	10	13	1	6	1·3
5·1	...	1·33	− 1·65	...	...	2	0	0	8	7	0	0	7	0	5	0	0	6	28	9	5	1·2
7·0	...	3·53	+ 0·40	...	...	0	0	0	3	18	1	0	4	2	7	20	6	2	6	0	15	0·9
...	31	15·58	+ 7·98	1·68	14	0	0	1	...	...	0	0	0	4	10	18	0	16	6	8	0	...
...	23	5·44	− 4·39	1·14	23	2	0	0	...	...	2	3	0	6	0	0	0	18	24	12	0	3·4
...	20	8·06	+ 0·01	1·72	21	3	0	0	...	...	0	0	0	8	4	8	2	10	24	6	0	2·6
7·8	29	9·42	+ 5·39	1·11	4	...	...	...	0	16	...	0	1	2	19	0	1	15	20	3	1	1·1
5·4	21	2·10	− 2·32	0·38	13	...	...	...	5	8	...	0	2	3	6	0	0	3	25	17	4	1·6
7·7	21	4·28	− 0·06	0·69	21	...	...	...	2	18	...	0	0	6	24	5	3	8	9	1	6	1·4
7·5	30	9·87	...	1·03	4, 27	0	0	0	1	13	1	...	3	0	24	13	8	7	2	5	0	2·9
5·7	20	2·19	...	0·38	13	1	0	0	3	10	...	1	20	7	8	1	3	9	3	9	0	2·1
7·8	18	4·54	...	0·79	21	2	0	0	1	18	...	0	5	5	33	9	5	3	0	2	0	2·4

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A.	B.										
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Maximum.	Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
CUPAR, (Fife.)	210	Oct.	29·228	53·2	42·1	47·6	+1·2	63·0	1	31·5	10	47·6	2·3	·272	84
Dr TURNBULL, Fife and		Nov.	29·675	48·8	36·0	42·4	+1·7	56·0	12	23·0	30	41·4	2·7	·207	80
Kinross District Asylum.		Dec.	29·465	41·1	31·1	36·1	−2·1	54·0	22	20·0	30	36·5	1·7	·184	85
BUCHLYVIE, (Stirling.)	125	Oct.	29·314	52·3	42·4	47·4	+1·9	63·0	1	30·0	10	46·7	1·5	·282	89
Rev. JOHN A. MACDONALD.		Nov.	29·799	46·9	37·5	42·2	+2·7	53·5	12	23·0	30	41·7	1·8	·227	87
		Dec.	29·548	39·8	32·2	36·0	−1·2	52·0	22	18·0	30	35·8	0·8	·195	93
HELENSBURGH,	18	Oct.	...	...	...	...	...	...	...	...	...	...	...	...	...
(Dumbarton.)		Nov.	...	48·5	37·5	43·0	+1·8	58·8	12	25·6	18	...	...	...	...
J. R. WILSON, Waterworks.		Dec.	...	41·4	33·1	37·2	−1·5	53·8	28	21·0	2	...	...	...	...
DUMBARTON, (Dumbarton.)	27	Oct.	29·415	54·5	44·4	49·5	+2·0	62·5	1	30·7	11	48·6	2·2	·290	85
WILLIAM DENNY AND		Nov.	29·908	49·0	38·9	44·0	+2·5	55·5	18	24·6	30	43·9	2·4	·236	82
BROTHERS.		Dec.	29·646	42·7	33·6	38·1	−1·1	53·0	22, 28	22·0	30	37·9	1·1	·207	91
LOCHBUIE, (Argyll.)	20	Oct.	29·413	53·2	44·6	48·9	+0·5	59·8	3	37·5	24	48·4	1·5	·303	89
J. T. MANNARY, Gardener to		Nov.	29·930	49·6	40·9	45·2	+1·3	54·8	5	28·1	30	45·2	1·7	·262	88
the Maclaine of Lochbuie.		Dec.	29·620	43·7	35·8	39·8	−1·4	51·2	22	27·0	30	40·1	1·5	·217	88
AIRDS, (Argyll.)	15	Oct.	29·418	52·7	43·5	48·1	−0·3	58·0	1	35·0	10	48·3	1·5	·301	90
Colonel MACFIE, C.B., and		Nov.	29·921	49·7	39·1	44·4	+0·7	55·0	12	28·0	30	44·3	1·3	·261	90
ALEXANDER M'LACHLAN.		Dec.	29·644	44·3	35·7	40·0	−1·6	53·0	22	26·0	30	40·0	1·2	·222	90
POLTALLOCH, Lochgilphead	135	Oct.	29·283	54·0	43·5	48·7	+1·4	61·0	1, 3	32·0	10	47·1	1·5	·288	89
(Argyll.)		Nov.	29·800	49·5	38·8	44·1	+1·7	56·0	1	22·0	30	43·0	1·4	·247	89
D. S. MELVILLE, Gardener		Dec.	29·502	42·9	33·9	38·4	−1·3	52·0	22	22·0	1, 2	37·8	0·7	·212	94
ROTHESAY, (Isle of Bute.)	116	Oct.	29·314	53·5	43·5	48·5	+1·0	62·3	1	34·8	10	47·7	1·7	·287	88
JAMES KAY, Barone Cottage.		Nov.	29·824	48·2	38·1	43·2	+0·7	54·5	12, 23	26·0	30	42·5	1·4	·241	89
		Dec.	29·541	42·3	34·6	38·4	−1·5	51·0	22	25·0	2	38·4	1·5	·202	88
GREENOCK, (Renfrew.)	238	Oct.	29·195	53·4	42·8	48·1	+1·2	63·0	2	36·2	10	48·3	1·9	·292	87
DANIEL MACALISTER, C.E.,		Nov.	29·691	48·0	38·2	43·1	+1·4	54·2	12	26·2	30	43·2	2·0	·236	85
Waterworks.		Dec.	29·415	42·2	33·0	37·6	−1·7	53·0	23	23·0	31	38·8	1·2	·213	90
PAISLEY, (Renfrew.)	107	Oct.	29·323	53·5	44·2	48·8	+0·8	62·8	1	34·1	10	48·4	1·9	·293	87
DONALD MACLEAN,		Nov.	29·821	48·2	39·0	43·6	+1·4	56·2	4	26·1	30	43·1	1·9	·237	85
The Coats Observatory.		Dec.	29·554	41·7	34·0	37·8	−1·6	52·8	22	22·0	30	37·9	1·2	·205	90
BOWHILL, (Ayr.)	978	Oct.	28·391	50·7	39·2	44·9	+1·7	59·0	3	34·0	28	45·2	1·6	·264	88
ALEXANDER GILLESPIE, C.E.		Nov.	28·900	45·3	35·2	40·3	+1·6	51·0	12	23·0	30	40·5	1·7	·217	86
		Dec.	28·605	39·6	30·4	35·0	−0·8	50·0	22	20·0	30	35·6	1·1	·189	90
KILMARNOCK (Ayr.)	74	Oct.	29·367	53·4	44·1	48·8	...	62·0	1	30·0	10	48·6	2·0	·294	86
GLENFIELD & KENNEDY, Ltd.		Nov.	29·868	...	37·5	...	...	...	...	20·0	30	43·3	1·8	·242	86
		Dec.	29·593	41·0	32·7	36·9	...	52·5	22	19·0	2	37·3	1·2	·199	90
GLASGOW, Belvidere Hosp.,	54	Oct.	29·386	53·5	43·6	48·6	+1·5	64·9	1	30·9	10	49·1	2·3	·293	84
(Lanark.)		Nov.	29·882	48·2	38·4	43·3	+1·1	57·9	3	22·2	30	43·8	1·6	·250	88
Dr JOHN BROWNLEE.		Dec.	29·625	41·6	32·9	37·3	−1·9	53·0	22	20·0	2, 30	37·2	1·1	·200	90
GLASGOW, Observatory,	184	Oct.	29·242	52·2	44·3	48·3	+0·9	61·1	1	35·5	10	47·7	1·8	·288	87
(Lanark.)		Nov.	29·740	46·9	39·2	43·1	+1·3	53·3	12	26·6	30	42·7	1·9	·234	86
Prof. BECKER, F.R.S.E.		Dec.	29·479	41·2	34·5	37·9	−1·0	52·3	22	25·4	30	37·7	1·2	·203	90
BOTHWELL, (Lanark.)	...	Oct.	...	54·0	42·4	48·2	...	65·0	4	30·0	10	46·8	1·9	·275	86
Dr JOHN T. WILSON.		Nov.	...	47·1	37·5	42·3	...	54·4	12	19·0	30	42·2	2·0	·227	85
		Dec.	...	40·0	31·4	35·7	...	52·0	22	18·0	30	35·3	1·1	·185	90

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
6·4	24	5·02	+2·34	0·66	8	...	...	...	0	7	...	0	8	0	17	1	1	3	27	5	0	3·6
5·1	8	0·63	−1·97	0·29	28	...	...	...	0	2	...	0	9	0	2	0	3	1	29	16	0	2·1
...	20	1·45	−1·32	0·33	7	...	...	...	...	...	...	0	...	...	...	...	...	...	...	...	...	...
5·9	30	9·55	+4·98	0·98	6, 14	0	0	0	3	10	4	2	3	1	13	8	2	20	11	2	2	3·5
4·4	24	3·37	−1·81	0 58	23	2	0	0	4	3	3	3	0	2	4	2	0	11	22	13	6	2·2
6·7	23	5·44	−0·50	0·76	22	2	0	0	3	12	7	2	2	1	11	18	3	12	7	5	3	2·2
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	21	3·68	−1·14	0·52	8	...	...	...	...	...	...	...	6	18	2	10	0	0	2	24	0	...
...	18	4·30	−1·36	0·80	2	...	...	...	...	...	...	...	2	8	28	10	2	6	4	2	0	...
...	29	10·74	+6·03	1·24	6	...	...	...	...	...	...	...	2	4	4	6	8	8	8	2	20	1·1
...	21	3·39	−1·67	0·35	23	...	...	...	...	...	...	...	6	2	0	2	4	0	18	14	14	1·3
...	16	4·22	−1·02	0·86	21	...	...	...	...	...	...	...	2	0	4	16	10	0	4	0	26	1·0
7·7	27	15·71	...	2·00	15	0	0	0	4	18	0	2	4	0	14	2	12	20	4	2	4	3·0
6·5	22	9·20	...	1·60	23	1	1	0	4	14	0	2	8	6	4	4	6	14	10	8	0	3·0
6·4	20	6·99	...	1·68	3	1	1	0	6	15	0	3	2	20	16	8	4	6	2	0	4	4·6
...	...	10·70	...	...	...	...	...	...	...	...	...	...	6	1	13	8	17	2	14	1	0	...
...	...	4·85	...	...	...	..	...	...	...	...	...	...	11	0	11	3	11	3	18	3	0	...
...	...	10·96	...	...	...	...	...	...	...	...	...	...	0	0	17	21	16	1	7	0	0	...
8·3	25	9·25	+3·71	0·90	25	0	0	0	0	19	0	0	2	1	2	8	8	19	6	1	15	2·6
7·4	21	5·10	−0·23	0·95	8	1	3	0	0	17	0	0	4	2	2	3	3	12	4	7	23	2·4
7·7	12	3·88	−1·97	0·82	6	3	1	0	3	19	1	3	0	2	3	13	8	4	8	1	23	2·4
7·9	29	9·69	+4·96	0·80	7	0	0	0	2	20	0	3	2	8	3	7	12	10	6	3	11	2·0
7·0	22	3·87	−1·02	0·56	14	1	0	0	3	15	0	1	4	5	2	5	3	8	9	12	12	1·8
7·7	19	4·90	+0·01	0·63	21, 22	0	1	0	2	17	0	0	1	3	13	12	1	8	5	1	18	1·5
8·0	29	10·97	+4·75	1·10	14	0	0	0	0	17	0	0	0	2	4	16	0	20	10	9	1	2·5
6·7	21	4·93	−1·48	0·72	13	1	1	0	0	9	1	1	0	1	2	6	0	5	22	20	4	2·7
8·0	18	6·76	−0·84	2·00	2	3	0	0	2	17	4	1	0	0	8	25	0	16	2	7	4	2·4
7·5	29	9·33	+5·22	0·77	6	0	0	0	0	20	7	0	7	1	8	4	21	3	12	2	4	2·3
5·9	21	3·06	−1·02	0·48	13	0	0	0	4	12	5	1	5	2	2	1	8	2	25	7	8	2·1
7·9	24	4·46	−0·31	1·04	2	5	0	0	1	21	17	2	3	1	15	6	15	3	4	0	15	1·9
7·7	26	6·29	...	0·72	6	...	...	..	0	4	...	0	4	1	4	9	16	20	7	1	0	2·1
7·3	22	3·84	...	0·80	22	...	...	...	0	9	...	0	8	3	3	3	18	4	16	5	0	2·4
7·5	16	3·23	...	0·55	10	...	...	...	0	8	...	0	1	2	6	24	19	8	1	1	0	2·4
6·7	29	8·08	...	0·70	12	0	4	0	3	13	0	0	0	5	7	8	8	17	15	2	0	1·4
6·3	26	3·37	...	0·34	14	1	0	0	0	8	0	1	3	8	3	7	0	16	20	3	0	1·5
5·8	19	3·87	...	0·59	3	1	0	0	0	6	1	0	0	2	30	8	10	8	3	0	1	1·1
5·7	31	7·47	+3·93	0·78	6	0	0	0	1	14	7	0	4	1	40	0	1	0	10	4	2	1·4
7·0	20	2·23	−1·38	0·27	8	1	0	0	0	10	1	0	4	0	21	0	1	3	12	16	3	1·8
6·4	16	2·64	−1·26	0·45	2	1	0	0	1	8	3	0	3	3	34	3	2	0	2	4	11	1·6
8·5	29	8·31	+4·65	0·85	27	0	0	0	1	21	5	0	0	3	5	9	6	12	13	2	12	1·2
7·5	22	2·52	−1·19	0·32	23	1	0	0	0	14	3	0	1	1	2	2	3	7	17	7	20	1·0
8·5	17	2·76	−1·18	0·39	22	3	0	0	1	23	4	0	0	1	15	10	3	7	2	1	23	0·8
...	31	6·12	+3·64	0·75	27	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	15	2·24	−0·37	0·25	27	..	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
...	13	2·23	−0·65	0·48	3	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of A. Maximum.	Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.									°	°	inch.	%
LEADHILLS, (Lanark.) James M'Farlane.	1300	Oct.	...	45·6	37·9	41·8	...	52·1	1	32·0	18, 21	41·7	1·4	·238	89
		Nov.	...	38·4	31·3	34·9	...	47·5	4	15·0	30	35·2	1·4	·179	87
		Dec.	...	37·2	29·5	33·4	...	47·5	21	19·1	2	33·2	1·1	·167	88
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. Copeland, F.R.S.E.	441	Oct.	28·990	52·3	43·4	47·9	+1·9	63·1	1	34·9	10	47·4	2·0	·279	86
		Nov.	29·453	46·6	38·2	42·4	+1·4	55·9	12	24·9	30	41·7	1·7	·228	87
		Dec.	29·220	41·1	33·2	37·2	−0·8	53·1	22	25·6	1	36·8	1·2	·195	90
CORSTORPHINE, (Edinburgh.) Dr T. N. Johnston, F.R.S.E.	165	Oct.	29·274	53·9	42·2	48·0	...	63·7	1	31·8	10	47·4	2·0	·279	86
		Nov.	29·748	47·3	36·2	41·7	...	54·4	12	22·7	30	41·0	1·5	·225	88
		Dec.	29·510	40·9	32·4	36·6	...	53·1	22	20·5	30	36·1	1·2	·190	89
LEITH, (Edinburgh.) James Bolam, Navigation School, and George Redpath.	76	Oct.	29·365	53·9	45·1	49·5	+2·2	64·5	1	36·7	10	48·8	2·3	·290	84
		Nov.	29·840	48·1	39·7	43·9	+1·6	55·5	12	28·5	30	43·4	2·2	·234	83
		Dec.	29·610	41·7	34·9	38·3	−1·2	54·5	22	25·5	30	38·0	1·3	·203	89
DALKEITH, (Edinburgh.) J. Whytock, Gardener to the Duke of Buccleuch.	190	Oct.	29·256	53·5	43·0	48·3	+1·2	64·0	3	31·0	10	47·8	1·7	·291	88
		Nov.	29·722	46·5	39·0	42·7	+1·3	54·0	12, 13	25·2	29	42·0	1·8	·220	86
		Dec.	29·487	40·6	33·6	37·1	−1·6	54·0	22	23·0	30	36·6	1·2	·194	90
SMEATON, (Haddington.) John Black, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Oct.	29·357	53·9	42·6	48·2	+1·4	63·5	1	33·0	10, 24	46·8	1·4	·287	90
		Nov.	29·806	46·9	36·4	41·6	+0·7	54·0	12	25·5	30	40·2	1·3	·222	90
		Dec.	29·589	42·2	33·3	37·7	−0·4	51·0	22	22·5	6	36·4	0·9	·199	93
MARCHMONT, (Berwick.) John A. Wood, Gardener.	500	Oct.	28·936	52·0	40·9	46·4	+0·7	61·0	1	33·0	24	47·1	1·5	·288	89
		Nov.	29·384	46·9	34·9	40·9	+1·1	54·0	12	23·0	30	40·7	2·0	·213	85
		Dec.	29·161	40·0	32·0	36·0	−0·5	51·0	22	22·0	2	35·9	1·3	·188	89
DUNS CASTLE, (Berwick.) Robert Aikman, Gardener to R. Mordaunt Hay.	500	Oct.	28·937	52·9	40·9	46·9	+1·2	63·6	1	32·0	24	47·4	1·5	·291	89
		Nov.	29·374	46·9	34·3	40·6	+0·6	54·2	12	25·2	30	41·4	2·0	·220	85
		Dec.	29·164	40·6	30·6	35·6	−1·0	51·6	22	19·6	6	36·4	1·6	·185	86
STOBO CASTLE, (Peebles.) William Young, Gardener to Sir B. T. G. Montgomery, Bart.	600	Oct.	28·818	51·6	40·6	46·1	+0·8	60·0	1	26·0	10	46·3	1·4	·281	90
		Nov.	29·295	45·2	36·0	40·6	+0·9	53·0	12	17·0	30	40·1	1·6	·216	87
		Dec.	29·040	38·7	30·7	34·7	−1·8	51·0	22	17·0	30	35·0	0·8	·188	92
BROOMLANDS, (Roxburgh.) James Brunton.	205	Oct.	29·245	54·1	40·5	47·3	+0·8	62·0	1	33·0	10, 24	47·5	1·4	·294	90
		Nov.	29·714	47·9	34·6	41·2	+0·6	57·0	12	22·0	30	40·2	1·4	·220	89
		Dec.	29·496	41·6	30·3	35·9	−1·7	54·0	22	15·0	2	36·0	1·0	·193	91
WOLFELEE, (Roxburgh.) William Gordon, Gardener to J. T. S. Elliot.	537	Oct.	28·868	52·6	38·9	45·8	+0·5	62·0	1	26·0	10	45·8	1·5	·274	89
		Nov.	29·350	45·5	33·5	39·5	−0·5	53·0	12	13·0	30	38·8	1·6	·205	87
		Dec.	29·110	39·2	30·2	34·7	−2·2	50·0	22	14·0	2	34·9	0·9	·185	91
DRUMLANRIG, (Dumfries.) David Inglis, Gardener to the Duke of Buccleuch.	191	Oct.	29·268	53·3	40·7	47·0	+0·1	60·0	1, 4	27·0	10	46·7	1·5	·284	89
		Nov.	29·758	47·0	34·7	40·9	−0·1	55·0	11	23·0	18	40·5	1·5	·220	88
		Dec.	29·477	40·6	30·7	35·7	−2·3	50·0	22	15·0	30	35·7	1·0	·192	91
DUMFRIES, (Dumfries.) Rev. William Andson.	60	Oct.	29·400	54·8	43·8	49·3	+1·8	63·0	1	30·0	10	48·3	2·0	·289	86
		Nov.	29·901	47·6	36·8	42·2	+0·3	56·0	4	24·0	30	41·9	1·4	·237	90
		Dec.	29·626	40·8	32·5	36·7	−2·1	51·5	22	22·0	2	36·5	1·1	·195	91
CARGEN, (Kirkcudbright.) Alex. Peacock, Gardener to Colonel Dudgeon.	85	Oct.	29·372	54·2	43·2	48·7	+1·4	62·0	1	28·0	10	48·4	1·4	·305	90
		Nov.	29·875	47·3	36·5	41·9	+0·1	56·0	4	22·0	30	41·7	1·1	·241	92
		Dec.	29·597	41·5	32·7	37·1	−1·7	52·0	22	21·0	2, 30	37·0	1·9	·202	92

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0-12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	31	14·39	...	1·57	24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	20	5·29	...	1·32	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	20	4·70	...	0·86	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6·3	30	5·72	+3·19	1·06	8	0	0	0	1	8	4	1	7	2	6	5	21	10	9	0	2	3·2
4·5	15	1·47	-0·89	0·55	28	1	0	0	6	3	1	0	4	0	1	2	8	16	20	7	2	3·2
6·1	16	1·08	-1·25	0·20	13	1	0	0	5	8	4	4	0	0	5	17	20	9	8	2	1	2·2
5·4	31	6·64	...	1·12	6	0	0	0	4	9	0	0	3	1	9	0	5	4	31	1	8	2·1
...	19	1·53	...	0·50	28	3	2	0	...	...	1	0	5	3	1	0	1	2	31	4	13	1·9
5·4	17	1·32	...	0·28	3	1	0	0	3	7	6	3	11	1	22	0	3	6	8	2	9	2·0
6·5	26	5·76	+3·14	0·73	9	0	0	0	2	12	0	0	3	1	9	5	13	13	8	5	5	3·0
4·5	14	1·54	-0·83	0·59	28	1	0	0	9	7	1	0	2	1	1	0	3	16	27	5	5	3·2
6·6	20	1·12	-1·21	0·15	8	2	0	0	3	12	5	1	1	1	8	15	5	8	8	2	14	2·4
6·8	...	5·30	...	...	...	0	0	0	2	13	0	2	0	4	3	11	4	37	3	0	0	3·7
5·0	...	1·10	...	...	...	1	0	0	7	7	2	2	2	0	2	2	8	29	16	0	1	2·4
5·9	...	0·50	...	...	...	1	0	0	3	9	6	3	4	0	6	7	20	12	11	2	0	3·0
...	22	5·73	+3·22	1·03	26	0	0	1	...	...	0	1	4	9	2	15	9	13	10	0	0	...
...	10	1·61	-0·79	0·74	28	1	0	0	...	...	3	2	5	2	0	5	4	26	15	3	0	...
...	9	0·76	-1·27	0·27	13	0	0	0	...	...	3	0	2	0	11	20	3	17	7	2	0	...
6·5	27	7·82	+4·24	1·51	6	0	0	2	1	12	0	0	8	4	7	2	7	6	24	4	0	3·8
5·3	16	1·77	-1·59	0·47	28	1	0	1	8	9	1	1	7	4	11	1	4	6	22	5	0	3·9
7·0	19	2·14	-0·93	0·43	2	1	0	0	5	16	0	0	9	1	17	6	5	12	7	5	0	3·0
7·5	24	7·93	+4·55	1·60	8	...	...	...	1	16	...	0	12	0	5	0	21	21	8	0	0	3·3
6·6	13	1·71	-1·31	0·42	28	...	..	...	3	12	...	1	20	0	1	0	17	2	19	1	0	4·0
8·2	17	1·96	-1·18	0·36	2	...	...	...	1	20	...	0	10	1	8	2	29	11	1	0	0	3·4
7·0	26	8·20	+4·97	...	...	0	0	0	1	9	0	1	6	0	7	1	15	8	22	3	0	2·3
6·4	17	2·80	-0·43	...	...	3	0	0	3	13	0	2	11	1	2	0	5	7	30	4	0	2·2
7·1	14	1·40	-2·21	...	...	6	0	0	3	17	0	3	6	0	11	13	12	6	14	0	0	1·2
6·5	31	6·20	+3·42	1·40	8	0	0	2	3	10	0	0	2	1	7	3	4	27	11	0	7	1·8
5·1	18	1·41	-1·19	0·30	2	1	0	0	2	4	2	0	1	1	2	0	0	9	31	0	16	0·9
6·2	19	0·93	--1·44	0·09	7	...	...	...	0	6	1	0	0	3	3	1	0	26	2	0	27	0·8
6·7	28	9·28	+5·26	1·59	9	0	0	2	1	9	0	0	0	5	0	6	0	24	24	3	0	2·3
5·0	15	2·15	-2·03	0·46	9	4	0	0	7	7	1	2	0	6	0	0	0	4	47	3	0	2·2
7·2	20	2·51	-1·92	0·62	8	4	0	0	1	12	4	1	0	10	0	14	1	6	31	0	0	1·8
...	30	10·68	+6·17	1·11	24	0	0	0	...	...	0	1	4	0	0	3	6	37	3	9	0	...
...	23	4·05	-0·67	0·46	8	0	0	0	...	...	3	0	9	0	0	0	6	10	4	30	1	...
...	21	4·21	-0·48	0·67	7	3	0	0	...	...	1	1	8	2	2	18	9	12	3	6	2	...
...	28	8·55	+4·95	1·28	27	0	0	0	...	...	1	1	4	2	5	11	10	19	7	4	0	2·6
...	23	3·06	-0·82	0·44	8	0	0	0	...	...	6	0	4	3	2	3	6	12	16	11	3	2·0
...	19	3·31	-1·00	0·39	3	1	0	0	...	...	4	1	1	5	19	13	2	8	4	7	8	2·0
6·9	29	10·40	+6·04	1·36	27	0	1	2	0	10	...	0	1	0	9	9	18	9	12	4	0	2·2
6·2	17	3·62	-0·81	0·61	8	0	0	0	0	5	...	0	11	2	1	0	7	6	19	14	0	1·6
7·6	17	3·74	-1·30	0·46	9	0	0	0	0	13	...	2	7	4	9	14	8	4	9	7	0	1·4

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1903.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.	°	°	°	°	°				°	°	inch.	%
CALLY, (Kirkcudbright.) Wm. Thomson, Gardener to H. G. Murray Stewart of Broughton.	120	Oct. Nov. Dec.	29·334 29·842 29·560	55·7 48·4 42·5	48·0 36·9 33·5	49·3 42·6 38·0	+2·0 +0·5 −1·3	61·4 56·4 50·0	1 12 22	30·0 23·6 20·0	10 30 2	49·1 42·8 37·6	1·6 1·4 1·4	·309 ·245 ·198	89 89 88
BEN NEVIS OBSERVATORY, (Inverness.) R. T. Omond, F.R.S.E., and Angus Rankin.	4407	Oct. Nov. Dec.	24·925 25·315 25·056	34·1 31·8 26·5	29·0 24·5 22·0	31·6 28·2 24·2	+0·2 −0·8 −1·6	40·5 41·9 36·6	1 6 21	22·8 10·9 13·3	7 30 1	31·7 28·3 24·2	0·1 0·5 0·3	·177 ·140 ·119	99 90 92

RECORD OF SUNSHINE.

STATIONS.	1903.	SUNSHINE.		
	Months.	Total Observed.	Difference from Average.	Per centage of Possible.
		hours.	hours.	%
DEERNESS, (Orkney.)	Oct. Nov. Dec.	83·3 43·0 27·8	+ 2·6 + 6·1 + 2·2	27 19 15
INVERNESS, (Inverness.)	Oct. Nov. Dec.	67·4 51·9 32·7	− 2·6 + 8·9 + 9·7	21 22 16
FORT AUGUSTUS, (Inverness.)	Oct. Nov. Dec.	27·3 11·0 ...	−33·7 − 8·0 ...	9 5 ...
FORT WILLIAM, (Inverness.)	Oct. Nov. Dec.	36·0 22·2 14·8	−40·7 − 5·0 + 3·3	11 9 7
BALRUDDERY, (Forfar.)	Oct. Nov. Dec.	65·3 87·8 18·0	... ...	20 36 8
PAISLEY, (Renfrew.)	Oct. Nov. Dec.	64·5 52·8 8·3	−19·5 +14·8 −13·7	20 21 4
GLASGOW, (Lanark.)	Oct. Nov. Dec.	48·2 35·0 2·9	−21·1 + 8·8 −18·4	15 15 1
EDINBURGH, (Edinburgh.)	Oct. Nov. Dec.	75·1 56·5 21·8	... ...	23 23 10
MARCHMONT, (Berwick.)	Oct. Nov. Dec.	59·5 58·8 14·8	−25·9 + 7·7 −17·3	19 24 7
BEN NEVIS OBSERVATORY, (Inverness.)	Oct. Nov. Dec.	16·0 20·9 18·0	−26·0 − 7·1 0·0	5 9 9

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
6·0	27	7·52	+ 2·63	0·96	24	0	1	1	1	2	0	0	0	7	2	19	0	12	1	21	0	2·0
4·9	21	4·32	– 0·96	0·54	26	0	2	0	4	1	2	1	5	13	1	7	3	7	4	20	0	1·8
...	17	4·77	– 0·73	0·71	3	1	1	0	...	...	0	1	5	12	11	16	3	6	1	8	0	1·6
9·6	29	18·66	+ 3·24	3·02	15	21	5	0	0	28	28	8	8	2	6	12	12	6	8	6	2	2·6
8·9	22	17·27	+ 2·68	3·83	23	18	0	0	1	24	23	3	20	6	2	0	6	6	12	6	2	2·2
8·3	23	6·81	–12·30	1·76	22	20	1	0	3	24	29	1	4	0	4	26	12	6	2	4	4	2·7

UNDERGROUND TEMPERATURE.

STATIONS.		1903. Months.	UNDERGROUND TEMPERATURE. Depth in Inches. 3	12	22	36	48
			°	°	°	°	°
DUNROBIN,	(Sutherland.)	Oct.	47·4	48·9	49·2	...	...
		Nov.	41·7	43·5	43·8	...	...
		Dec.	36·7	37·8	38·3	...	...
HADDO HOUSE,	(Aberdeen.)	Oct.	46·5	48·3	49·3	...	...
		Nov.	38·4	40·9	42·2	...	...
		Dec.	...	...	...	...	...
ARBROATH,	(Forfar.)	Oct.	47·5	48·5	49·2	...	...
		Nov.	40·4	42·0	43·5	...	...
		Dec.	36·8	37·1	38·5	...	...
OCHTERTYRE,	(Perth.)	Oct.	48·2	50·2	51·0	51·1	51·6
		Nov.	42·3	45·8	46·2	47·2	48·3
		Dec.	37·8	39·7	39·8	42·4	43·5
POLTALLOCH,	(Argyll.)	Oct.	49·4	50·9	50·5	...	...
		Nov.	44·2	45·5	45·2	...	...
		Dec.	38·5	39·4	39·0	...	...
PAISLEY,	(Renfrew.)	Oct.	47·8	48·4	50·6	...	...
		Nov.	42·9	43·7	43·6	...	...
		Dec.	37·9	38·6	41·6	...	...
CORSTORPHINE,	(Edinburgh.)	Oct.	47·2	49·5	50·1	...	...
		Nov.	41·2	43·4	44·3	...	...
		Dec.	35·4	37·5	38·4	...	...
SMEATON,	(Haddington.)	Oct.	48·2	49·2	50·0	...	...
		Nov.	40·8	42·2	43·8	...	...
		Dec.	36·3	36·9	36·9	...	...
MARCHMONT,	(Berwick.)	Oct.	45·8	47·2	49·2	...	...
		Nov.	39·1	40·8	43·4	...	...
		Dec.	34·9	36·3	38·0	...	...

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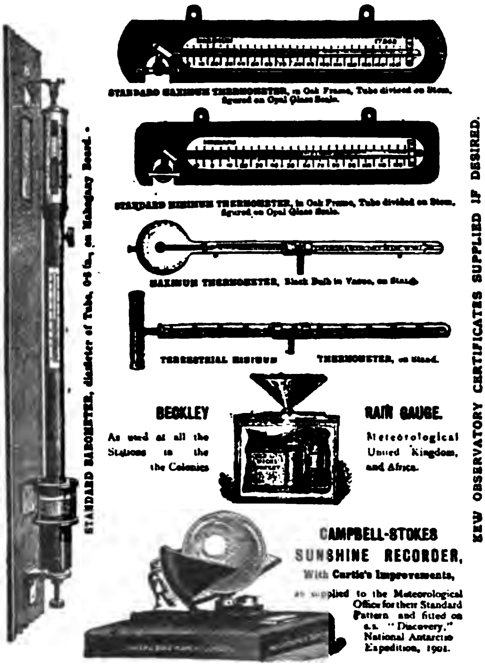
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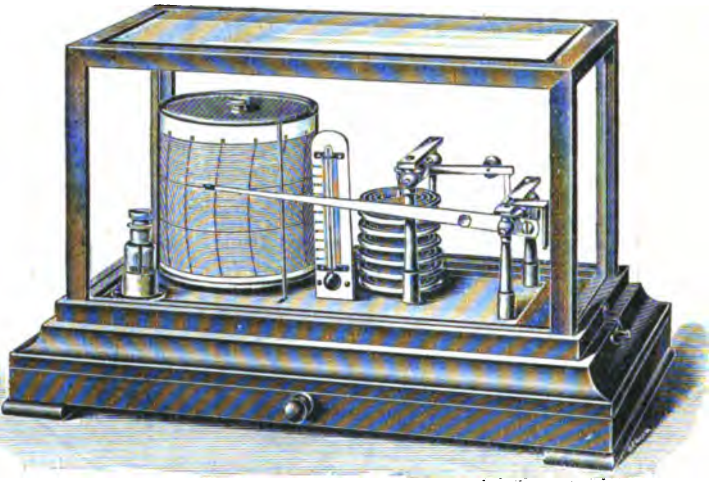

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THE Council authorised the insertion of the following Papers in the forthcoming Number of the Society's *Journal*:—

1. On the Relations between the Diurnal Changes of Temperature and Atmospheric Pressure.
2. Report from the Council to the General Meetings on 16th March and 18th July 1905.
3. Additional Returns of Rainfall for 1904.
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1.

ON THE RELATIONS BETWEEN THE DIURNAL CHANGES OF TEMPERATURE AND ATMOSPHERIC PRESSURE.

By J. Halm, Ph.D., F.R.S.E., Lecturer on Astronomy in the University of Edinburgh.

In the following explanations regarding a possible cause of the diurnal change of pressure, I do not presume to lay before meteorologists a complete theory, but simply to draw attention to a few physical facts regarding the thermodynamics of our atmosphere, which, though doubtless well-known to all who have worked in this domain of physical science, seem so far not to have been utilised in considerations on this problem. The advantage of the point of view from which I propose to consider the phenomenon is made apparent, on the one hand, by the simplicity of the physical laws forming the basis of the whole investigation, and, on the other, by the close and complete representation of the actually observed facts by means of the theoretical formulæ.

On the chief phenomenon, which forms the starting-point of the present discussion, I may probably consider myself in agreement with my readers. There can be no doubt that the alternate heating and cooling of our atmosphere in the course of a day must be accompanied by corresponding expansions and contractions of those layers which are affected by the diurnal change of temperature. The fact that a given mass of air, pressing upon unit surface area, occupies a greater volume at the hottest time of the day than at the coldest, forms the principal, indeed the only, basis for all further conclusions.

The tendency on the part of the lower atmospheric layers to expand during the day and to contract during the night must in some measure affect the upper strata resting upon them, much in the same way as the piston in the cylinder of a steam-engine has to follow the changes of volume of the steam pressing upon it. We conclude, then, that the height of the atmosphere, if not as a whole, at least to a considerable distance from the surface, will be affected by the diurnal expansion and contraction of the lower strata, and hence will be a function of the time of the day. The atmosphere will reach its maximum height during the hottest time of the day, and its minimum during the coolest.

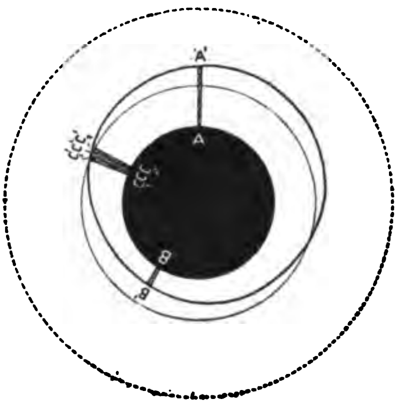

Fig. 1.

Let us now suppose, in Fig. 1, the inner circle to represent the circumference of the solid earth, say in the equatorial section. We will further assume the quasi-elliptical outer curve to represent, at a certain moment, the outline of that part of the atmosphere which is affected by diurnal expansion and contraction. Upon this shell rests the remainder of the atmosphere, which, though not expanding or contracting itself, is, to some extent, partaking of the upward and downward motion of the inner shell. The dotted circle may represent the boundary line of the expanding inner atmosphere, under the supposition that there is no diurnal expansion and contraction.

We want to find how the pressure upon any point A_1B_1, etc., on the earth's surface is affected by a change of the height of the expanding atmosphere within the egg-shaped shell, $A^1B^1C^1$.

If we consider the mass of air resting upon a unit surface, say upon one square inch, it appears from the figure that the same mass occupies a greater height at A than at B, or in other words, that the air of the column AA^1 is less dense than that of the column BB^1. This would certainly be so, if both columns of air had been enclosed within vertical solid walls, by which communication with neighbouring columns had been prevented. But, in reality, the state of matters is different. Take, for instance, three such neighbouring columns at $C_1C_1^1$, CC^1, and $C_2C_2^1$. If each column were enclosed between vertical walls, the density of $C_1C_1^1$ would be greater than that of CC^1, and this again greater than $C_2C_2^1$. But such differences of density cannot be maintained if the air is left to mix freely. There will be a tendency to equalise the density of all the three columns, with the result that the column $C_2C_2^1$ is heavier than CC^1, and this again heavier than $C_1C_1^1$. We may also conclude that the difference in weight of two neighbouring columns is in proportion to the original difference in their densities, or to the difference of their heights. Now, since the weight of the column determines the static pressure upon the surface unit, we may also say that the difference of static pressure Δp between two neighbouring points C_1 and C, is in proportion to the difference of the heights of the expanding atmosphere at these two points, or

$$\Delta p = a\Delta h \qquad (1)$$

where a is a certain constant.

If we call h_0 the average height, and p_0 the corresponding average static pressure, we have therefore the following simple equation:—

$$p - p_0 = a\,(h - h_0) \qquad (2)$$

which expresses the instantaneous statical pressure in terms of the instantaneous height of the expanding atmosphere.

This statement seems, however, to require some modification, since the possibility of an opposite motion of the air from C_2^1 towards C_1^1 in the higher layers is, of course, also strongly suggested. It is perhaps impossible to say *à priori* which of the two tendencies is the more pronounced under the actual conditions, and the decision on this question must therefore be left to the observations. But, since it is not to be expected that the two effects counterbalance each other exactly, we must assume a statical change of pressure either in the one or in the other direction, such as is expressed by formula (2). Later on we shall see that the effect in the *lower* layers exercises a predominant influence on the statical diurnal changes of pressure.

We must not expect, however, that a is the same under all conditions. The derivation of equation (1) shows that a depends on the greater or less readiness with which the differences in the densities of neighbouring columns are neutralised, or, in other words, on the velocity with which air is transported from denser to less dense parts of the atmosphere. But, since the expansion and contraction takes place chiefly in the lower strata, where doubtless the effect of temperature is greatest, we must assume that surface-friction has considerable influence on the constant a. Near the coasts, as we know from experience, the transference of air takes place more readily than in the interior of continents, and hence we should expect *à priori* that the values of a for coast stations are larger than those for inland stations. This conclusion is afterwards shown to be in accordance with the observed facts.

It must be borne in mind, however, that so far the effect of a change in the amount of aqueous vapour has not been considered; we shall have to discuss this important point later on.

But besides the statical change of pressure, expressed by equation (2), there is still another pressure-effect, the existence of which becomes at once obvious, if we consider the problem from the following point of view.

Let us revert to our column of air CC^1. Suppose this column to be suddenly removed, so that CC^1 is now a vacuum. Obviously the air above C^1, the mass of which we may call m, would begin to fall, and the manner in which it would do so would be expressed by the same equation as the motion of a free-falling body. Hence we have—

$$m\frac{d^2h}{dt^2} + mg = o \tag{3}$$

where $\frac{d^2h}{dt^2}$ represents the acceleration of our mass of air, or the change of its velocity. But let a certain force f act against this downward motion. Our equation becomes in this case—

$$m\frac{d^2h}{dt^2} + mg = f$$

Now under the actual conditions the resisting force f is represented by the pressure of the column CC^1 upon C^1, which we may denote by P. Hence the equation for the motion of the mass of air is—

$$m\frac{d^2h}{dt^2} + mg = P$$

where mg is the weight of the air above C^1, and hence equivalent to the statical pressure upon C^1 from above, which we may call P_o. We may therefore write—

$$P - P_o = m\frac{d^2h}{dt^2} \tag{4}$$

The equation shows that, if the height h is independent of the time, or if it changes uniformly with the time, $P = P_o$, *i.e.* the pressure upon C^1 from below agrees with the static pressure from above. But if the changes of h are not uniform, then P differs from P_o, and therefore is no longer a constant.

It is evident that the acceleration of h gives thus a measure for any change of pressure within the column CC^1, which is due, not to an increase or decrease in *weight*, but to a change in the *tension* of the expanding or contracting air. I shall henceforth call this effect the *dynamical* change of pressure.

Equations (2) and (4) place us in a position to express the statical, as well as the dynamical changes of pressure, in terms of the instantaneous height of the expanding and contracting atmosphere. The next step must be to define h as a function of the time of the day.

At first sight this problem may perhaps seem difficult, if not altogether hopeless. But an elegant and simple solution is at hand, if we consider the condition of equilibrium in the lower strata of our atmosphere.

It is suggested by the numerous observations of the vertical temperature-gradient, that these lower strata must be approximately in the state of so-called convective equilibrium, and I have shown elsewhere that there are also strong theoretical reasons for this conclusion. Without entering upon a discussion of its admissibility, let us accept the assumption, and let us investigate to what conclusions it leads.

It follows from the fundamental laws of thermo-dynamics, that in a convectively equilibrated atmosphere, the height h of a layer, whose absolute temperature is ϑ, is expressed by—

$$h = I.c_p(\vartheta_o - \vartheta) \qquad (5)$$

where ϑ_o is the absolute temperature at the earth's surface, I the mechanical equivalent of heat, and c_p the specific heat of air at constant pressure. Now let us assume h great enough, so that the temperature of the top layer is not subject to diurnal fluctuations. Then we may assume ϑ constant, and h represents the total height of the expanding and contracting atmosphere.

We recognise how important the equation (5) is for the solution of our problem. The only function of the time on the right-hand side is ϑ_o, the temperature of the layer immediately at the surface. But this function is empirically well known from the hourly temperature observations. Hence we can also express h, the instantaneous height of the expanding atmosphere, as a function of the time, and our problem may therefore be solved.

But before using equation (5) for our purposes, it becomes important to consider more closely the mode in which the expansion of the atmosphere probably takes place. Suppose the surface temperature to change from ϑ_1 to a higher value ϑ_2. According to (5) this change of temperature would lead to a corresponding alteration of the height h. But we must not imagine that the whole column of air can assume *at once* its new condition of equilibrium. On the contrary, we have to consider that the expansion consequent upon this change of temperature is propagated slowly, from layer to layer, and that quite a considerable time may elapse before the atmosphere will attain the height agreeing with the new surface temperature ϑ_2. In the meantime, however, the temperature of the surface has changed again. If we assume, for instance, that our first expansive impulse requires one hour to travel through the atmosphere, and suppose it to have started from the surface, say at one o'clock, then at two o'clock the atmosphere still contains all the impulses received during this whole hour. The height of the expanding atmosphere, say at two o'clock, will then be determined, neither by the surface temperature at one o'clock nor by that at two o'clock, but by the sum of all the temperatures, the expansive effects of which are acting in the atmosphere at two o'clock. Approximately the curve representing these summatory effects of the temperature still resembles the curve of the actual surface temperature, but obviously it must show a lag of about half an hour.

We must therefore expect that the expanding atmosphere reaches its maxima and minima somewhat *after* the corresponding extremes of the surface temperature.

In order to indicate that we have to deal here, not with instantaneous but with summative or accumulative temperature effects, I shall henceforth use ϑ_z instead of ϑ_0 and write the thermo-dynamical equation (5)—

$$h = I.c_p\,(\vartheta_z - \vartheta) \qquad (6)$$

where ϑ_z denotes the *average* temperature within the interval t and $t + \tau$, τ signifying the time required by the expansive effect to travel from the surface to the top of the atmosphere.

The comparatively slow propagation of the expansive effects through the atmosphere is of special importance in the case of the dynamical part of the pressure change. If in Fig. 1 the acceleration $\frac{d^2h}{dt^2}$ generated by the expansion of the surface layer at C were instantaneously transferred to C^1, the dynamical pressure, expressed by equation (4), would certainly be insignificantly small. But the propagation of the expansive effects being slow, we have to consider, at each moment, the sum total of all the accelerations present in the column CC^1, and their accumulative action may well produce appreciable effects. Consequently equation (4) should be written—

$$P - P_0 = \sum_{t}^{t+\tau} m\frac{d^2h}{dt^2}$$

for which we may substitute, with probably sufficient approximation—

$$P - P_0 = m.\tau.\left(\frac{d^2h}{dt^2}\right)_z$$

where $\left(\frac{d^2h}{dt^2}\right)_z$ denotes the "average" acceleration within the time interval from t to $t + \tau$. Substituting the value of h from (6), we obtain—

$$P - P_0 = Ic_p m\tau\,\frac{d^2\vartheta_z}{dt^2} = b.\,\frac{d^2\vartheta_z}{dt^2} \qquad (7)$$

Our results with regard to the changes of the statical and dynamical pressure may now be collected. Equations (2), (6), and (7) show that the total change of pressure is expressed by—

$$\pi - \pi_0 = a.\,(\vartheta_z - \vartheta_z^{\circ}) + b.\,\frac{d^2\vartheta_z}{dt^2} \qquad (8)$$

where π is the instantaneous pressure at any given moment t, π_0 the mean pressure for the day, ϑ_z and ϑ_z° the corresponding "average" surface temperatures, and a and b constants. Since we know the surface temperature as a function of the time of the day, equation (8) determines ϖ as a function of the time, and therefore solves the proposed problem.

All that remains now to be done is to test the validity of equation (8) by means of the observations.

Before proceeding to this part of the paper, however, attention must be drawn to a most important point, to which so far no reference has been made. In the discussion of the problem, no account has yet been taken of the presence of aqueous vapour in our atmosphere, nor of the change it undergoes in the course of the day. But the effect of this important element upon the pressure must receive most careful attention, as there cannot be the least doubt that the variable amount of moisture must affect both the statical and dynamical pressure.

As regards the former, it is well known that Dove long ago recognised its importance, though perhaps overestimating its quantitative effect. Fortunately, however, this new factor does not add much to the complication of the question. For, if we compare the diurnal-curve of the absolute amount of moisture with that of the temperature, we find, as a rule, the two curves in fair agreement. Admittedly there are exceptions; at continental stations, and especially during the warm season of the year, the diurnal change of moisture follows a law different from that of the temperature. But in these exceptional cases it must be remembered, not only is the amplitude of the moisture-curve small, but the deviations are also, as observations on mountain stations show, confined to a comparatively shallow layer at the earth's surface. At higher elevations, the two curves are essentially in agreement, even under these exceptional conditions.

Let us, then, take advantage of this—at least approximate—correspondence between the curves of moisture and temperature.

Obviously the static effect of moisture would in equation (8) contribute to the first term on the right-hand side, simply by increasing the factor a. Since the amplitude of the diurnal moisture-curve is generally much greater near the coasts than in the interior of continents, it appears that the diminution of a from the sea towards the interior, to which I drew attention before, is still more enhanced.

As regards the dynamical effect, we have to investigate the thermo-dynamical equation (5) under the assumption of the presence of aqueous vapour. Here we must carefully distinguish between an unsaturated and a saturated atmosphere. In the former case, the presence of moisture is of no consequence, and the equation (5) may be used as it stands, since the slight change in the specific heat, c_p, is of no importance whatever. Different conditions, however, prevail when the atmosphere is saturated. In this case the latent heat of the vapour plays a most important rôle in the thermo-dynamical equation, which now has the form—

$$h = I\left(c_p + \frac{L_o - L}{\vartheta_o - \vartheta}\right).(\vartheta_o - \vartheta) \qquad (9)$$

L_0 and L_0 being the amount of latent heat contained in one kgr. of air at the surface and at the altitude h. Numerical computations show that the additional term in the bracket may increase the height very considerably. For instance, computing the height of a convective atmosphere whose boundary temperatures are $\vartheta_0 = 303°$ centigrade ($= 30°$ above freezing-point) and $\vartheta = 273°$, we find for dry air $h = 3000$ metres (appr.), but for saturated air about 7600 metres.

We see from this example that the expansion of air, due to a given increase of temperature, is much more considerable in the case of a saturated atmosphere than with dry air. But we know also that near the coasts the air is more frequently in a saturated condition than in the interior of continents. Hence we must infer that in the former places the *same* expansion is caused by a *smaller* increase of surface temperature. In other words, we have to conclude that the diminution of the amplitude of the diurnal temperature-curve, which is experienced as we proceed from the interior towards the coast, does not imply a correspondingly great decrease in the diurnal amplitude of the height of the expanding and contracting atmosphere. In fact, we shall see that the diurnal range of h is practically the same for all stations situated on the same parallel of latitude. This remarkable fact would therefore seem to indicate that the diminution of the range of temperature near the coasts is fully compensated for by an increase in the effective part of the diurnal change of aqueous vapour.

Even on sea, where the diurnal change of temperature is very small, the resulting changes in the height of the expanding atmosphere may nevertheless be considerable. Here the radiant solar energy is, for the greater part, converted into the latent or potential energy of the aqueous vapour, whereas little of it is used in raising the kinetic energy, *i.e.* the temperature of the atmosphere. But when the heated air gradually and slowly rises into higher layers and there cools by expansion, the latent heat is liberated and then enhances the outward expansion. It seems theoretically probable that the diurnal lifting and lowering of the atmosphere depends, not on the kinetic energy only, but on the sum total of all the thermal energies present at any given moment. The *law* of the diurnal change of these combined energies appears to be represented, at least with some degree of approximation, by the law of the kinetic energy, *i.e.* the temperature; but the *amplitude* of the change one would be inclined, contrary to our experiences as to the temperature-curve, to consider as independent of the climatic conditions of the locality, and therefore to be the same for all stations on the same parallel, all of which receive the same amount of solar energy throughout the day. This purely theoretical surmise, however, gains importance only after its practical demonstration by the observations.

We are now prepared to enter upon the second part of this paper, in which I shall demonstrate that equation (8) is indeed sufficient to represent all the various observed types of the diurnal change of atmospheric pressure.

Let us first study the peculiarities of the diurnal-curve of $\frac{d^2\vartheta}{dt^2}$, *i.e.* of the "change of the change" of diurnal temperature. There are two ways of finding this curve from the diurnal temperature-curve. On the one hand, we might derive, by well-known methods, from the hourly observed values the constants of a Fourier-series: *i.e.* represent ϑ in terms of the sines and cosines of the hour-angle of the sun and its multiples, and then differentiate this series twice with regard to t. This method, however, is not recommendable, because the errors we commit in breaking off the series, and in thereby omitting the higher terms, enter with very large factors into our computations of $\frac{d^2\vartheta}{dt^2}$.

A better and also simpler method, which is entirely free from this objection, is to write down the hourly values of ϑ, or $\vartheta - \vartheta_0$, (ϑ_0 being the mean temperature of the day), and then form the differences between consecutive values, and afterwards again the differences of these differences. The second row of differences may then be considered to be very approximately proportional to the hourly values of $\frac{d^2\vartheta}{dt^2}$.

Take, for instance, the hourly Greenwich values of $\vartheta - \vartheta_0$ (20 years' means) expressed in degrees Fahrenheit. The computation of the second differences is shown in the following Table I.:—

TABLE I.

	$\vartheta - \vartheta_0$.	1st Diff.	2nd Diff. $\frac{d^2\vartheta}{dt^2}$.		$\vartheta - \vartheta_0$.	1st Diff.	2nd Diff. $\frac{d^2\vartheta}{dt^2}$.
	°	°	°		°	°	°
MIDNIGHT	-3·38		+0·06	NOON	+5·12		-0·66
		-0·34				+0·59	
1 A.M.	-3·72		+0·03	1 P.M.	+5·71		-0·41
		-0·31				+0·18	
2 ,,	-4·03		+0·06	2 ,,	+5·89		-0·53
		-0·25				-0·35	
3 ,,	-4·28		+0·08	3 ,,	+5·54		-0·58
		-0·17				-0·93	
4 ,,	-4·45		+0·24	4 ,,	+4·61		-0·32
		+0·07				-1·25	
5 ,,	-4·38		+0·51	5 ,,	+3·36		-0·14
		+0·58				-1·39	
6 ,,	-3·80		+0·62	6 ,,	+1·97		-0·09
		+1·20				-1·48	
7 ,,	-2·60		+0·30	7 ,,	+0·49		+0·20
		+1·50				-1·28	
8 ,,	-1·10		+0·35	8 ,,	-0·79		+0·29
		+1·85				-0·99	
9 ,,	+0·75		-0·14	9 ,,	-1·78		+0·33
		+1·71				-0·66	
10 ,,	+2·46		-0·30	10 ,,	-2·44		+0·12
		+1·41				-0·54	
11 ,,	+3·87		-0·16	11 ,,	-2·98		+0·14
		+1·25				-0·40	

It follows from previous consideration that, instead of using the values of $\frac{d^2\vartheta}{dt^2}$ as given in the preceding table, we should employ the "average" accelerations $\frac{d^2\vartheta_\tau}{dt^2}$ during a certain interval τ. If, for instance, $\tau = 4$ hrs., we may find $\frac{d^2\vartheta_\tau}{dt^2}$

for any hour by taking the arithmetical means of the preceding 5 consecutive values of Table I.; thus for 4 a.m.:

$$\frac{+6+3+6+8+24}{5} = +0{\cdot}09, \text{ for 5 a.m.: } \frac{+3+6+8+24+51}{5} = +0{\cdot}18, \text{ etc.}$$

If we plot the curves of $\frac{d^2\vartheta}{dt^2}$ and $\frac{d^2\vartheta_\Sigma}{dt^2}$ (compare Fig. 2), we notice that the character of the curves is not much altered, except a small change of the amplitude, but that the phase has been shifted two hours. Hence, whether we use as our future comparison curve the ϑ- or ϑ_Σ-curve, is a question of not much importance, as long as we account for the difference of phase.

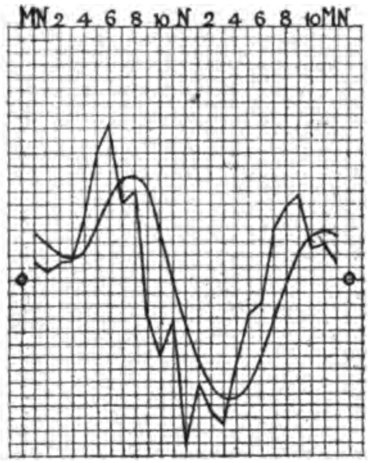

Fig. 2.

But since, from the theoretical point of view, the $\frac{d^2\vartheta_\Sigma}{dt^2}$-curve seems to me the more correct one, I shall base the following calculations upon it. The diagrams in Fig. 2 reveal already the most characteristic peculiarity of the diurnal pressure-curve, its *double* periodicity. The $\frac{d^2\vartheta_\Sigma}{dt^2}$-curve shows two principal and two secondary maxima and minima. As regards the epochs of these four turning-points, I subjoin the following data:—

	$\frac{d^2\vartheta_\Sigma}{dt^2}$-Curve.	Barometric-Curve (Vienna).
Chief Morning Maximum	8 A.M.	9 A.M.
Chief Afternoon Minimum	3–4 P.M.	4–5 P.M.
Secondary Evening Maximum	11 P.M.	MIDNIGHT
Secondary Evening Minimum	3 A.M.	4 A.M.

There is a constant lag of 1 hour in the barometric-curve, which seems to indicate that the assumed value for τ has been too small.

I shall now show that the temperature-curve for Greenwich, or any other station, is quite sufficient to represent, by means of equation (8), the diurnal pressure-curves for any station in approximately the same latitude.

Let us first compute from Table I. the hourly values of $\vartheta_\Sigma - \vartheta_0$ and $\frac{d^2\vartheta_\Sigma}{dt^2}$, but let us, for convenience sake, multiply these values by 0·6. We obtain the following figures given in Table II. The lag of 1 hour between the ϑ_Σ-curve and the pressure-curve has been accounted for by shifting the former curve in the forward direction:—

[TABLE II.]

TABLE II.

	$(\vartheta_\Sigma - \vartheta_0)$.	$\frac{d^2\vartheta_\Sigma}{dt^2}$		$(\vartheta_2 - \vartheta_\Sigma)$.	$\frac{d^2\vartheta_\Sigma}{dt^2}$
MIDNIGHT	−1·33	+·11	NOON	+1·30	−·11
1 A.M.	−1·69	+·08	1 P.M.	+2·08	−·18
2 „	−1·97	+·06	2 „	+2·68	−·24
3 „	−2·19	+·05	3 „	+3·04	−·27
4 „	−2·36	+·07	4 „	+3·13	−·28
5 „	−2·46	+·11	5 „	+2·94	−·25
6 „	−2·47	+·17	6 „	+2·50	−·19
7 „	−2·27	+·21	7 „	+1·87	−·09
8 „	−1·88	+·22	8 „	+1·15	−·02
9 „	−1·27	+·18	9 „	+0·41	+·06
10 „	−0·48	+·10	10 „	−0·27	+·09
11 „	+0·41	·00	11 „	+0·86	+·12

For testing the formula (8) by means of the data, I have selected five groups of stations with different climatic conditions, viz. mountain (two), maritime, continental, and valley stations. It was, of course, impossible to select stations exactly on the Greenwich parallel, but with few exceptions they are somewhat close to it, certainly sufficiently so for this tentative investigation. [Table III.]

The reason for introducing the factor 0·6 is that the figures given under $\frac{d^2\vartheta_\Sigma}{dt^2}$ in Table II. express directly the dynamical pressure-variation in 1/1000 inch.

I shall now compare the hourly observations of these five groups with equation (8). We shall see that the dynamical effect, expressed by $\frac{d^2\vartheta_\Sigma}{dt^2}$, is the same for all localities, whereas the factor a of the statical effect depends on the climatic condition of the place. The different character of these curves is therefore wholly due to differences in the value of a. It is greatest for mountain stations, and least for valley stations. It is also, in accordance with previous conclusions, greater for maritime than for continental stations.

The very close agreement between the observed and computed hourly values, which appears in a specially striking manner in the diagrams of Fig. 3, shows that the theoretical formula (8) actually represents the observed diurnal variations of the pressure. Considering that local conditions must to some extent affect the observed fluctuations, we need not be surprised to see some small discrepancies between the observed and computed curves.

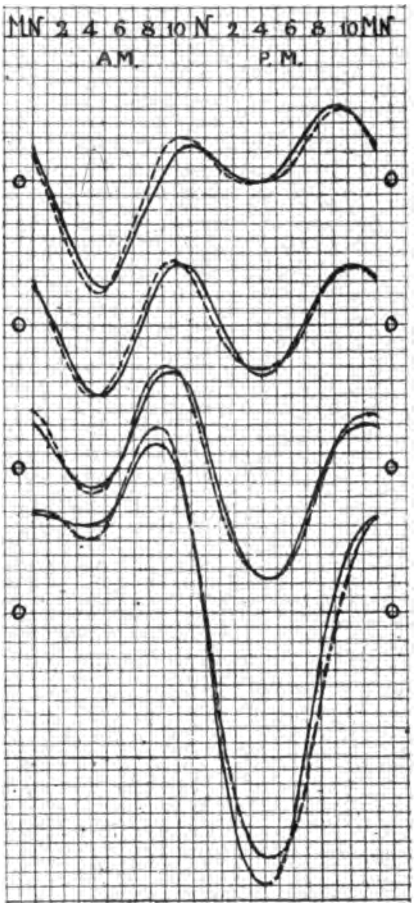

Fig. 3.

I think that, whatever objection may be raised against single parts of the above theory, the remarkable fact that the resulting equation appears to be of such universal application to the problem in all its aspects, goes far to demonstrate that the basis upon which the theory has been constructed is correct.

The most noteworthy result of this comparison is no doubt the constancy of the dynamical effect, which points to the fact that the amplitude of the expansion and contraction is the same for all stations, and independent of their peculiar meteorological conditions. The result confirms therefore the theoretical surmise previously made that not only the *kinetic* effect of diurnal insolation, but the *total* diurnal variation of caloric energy influences the expansion and contraction of the atmosphere.

I have mentioned already that even over the sea, notwithstanding the small diurnal range of the temperature, the change of pressure ought to be considerable owing to the great diurnal change in the amount of moisture. In this an interesting and convincing criterion for the correctness of our views is offered. I have drawn attention to the fact that in order that changes in the amount of moisture may be accompanied by vigorous expansion and contraction, it is essentially required that the atmosphere should be saturated. If over the sea the air is far from saturation, even a considerable diurnal change of moisture cannot produce sensible convectional motions of the air. Hence the diurnal change of dynamical pressure must be small when the air over the ocean is comparatively dry, and great when the atmosphere is saturated. In confirmation of this conclusion I may quote a passage from Dr. Buchan's article on "Meteorology" in the *Encyclopædia Britannica.* It is well known that the air in the high-pressure areas over the ocean is characterised by great dryness, while in the low-pressure areas the atmosphere is very fully charged with vapour. Now Dr. Buchan remarks that "one of the most striking facts of meteorology is the suddenness with which the barometric oscillation increases in amplitude on entering on the low-pressure parts of the intertropical regions; and the rapidity with which its amplitude diminishes on advancing on the high-pressure regions of the horse latitudes is equally striking."

On the other hand, in the centres of large areas of land the moisture contributes on the whole very little to the dynamical pressure, which therefore is mainly determined by the diurnal change of atmospheric temperature. Hence the diurnal range of pressure must here be greatest when the range of temperature is a maximum, a conclusion which is again confirmed by the observations.

In the above comparison I have also included mountain and valley stations, and I have shown that the former represent a somewhat exaggerated type of maritime, and the latter of continental conditions. The explanation of this fact presents no difficulties. It has already been advanced many years ago by Hann.

TABLE III.—Comparison between Observed and Computed Hourly Departures of Pressure. (Annual Curves).

(Unit, $\frac{1}{1000}$ inch.)

	Mountain Stations. $a = +0·09$		British Stations. $a = +0·07$		Dutch Stations. $a = +0·08$		Prague and Munich. $a = +0·04$		Klagenfurt and Tiflis. $a = —0·02$		
	obs.	comp.	obs.	comp.	obs.	comp.	obs.	comp.	obs.	comp.	
MIDNIGHT	+ 5	+ 4	+ 6	+ 6	+ 5	+ 5	+ 6	+ 8	+14	+14	MIDNIGHT
1 A.M.	0	− 1	+ 2	+ 2	+ 2	+ 1	+ 3	+ 6	+14	+14	1 A.M.
2 ,,	− 5	− 7	− 2	− 4	− 2	− 4	+ 1	+ 1	+13	+12	2 ,,
3 ,,	−10	−12	− 7	− 8	− 7	− 9	− 1	− 2	+12	+10	3 ,,
4 ,,	−13	−15	−10	−10	−10	−11	− 3	− 4	+12	+10	4 ,,
5 ,,	−15	−15	−10	− 9	−10	−11	− 2	− 2	+13	+12	5 ,,
6 ,,	−12	−11	− 8	− 6	− 7	− 8	0	+ 1	+15	+16	6 ,,
7 ,,	− 9	− 6	− 4	− 0	− 3	− 2	+ 6	+ 7	+20	+22	7 ,,
8 ,,	− 4	− 1	+ 2	+ 5	+ 3	+ 4	+10	+12	+23	+25	8 ,,
9 ,,	− 1	+ 5	+ 5	+ 9	+ 6	+ 8	+13	+14	+23	+26	9 ,,
10 ,,	+ 3	+ 6	+ 8	+ 9	+ 9	+ 8	+13	+13	+20	+20	10 ,,
11 ,,	+ 4	+ 6	+ 8	+ 7	+ 8	+ 7	+11	+ 8	+11	+11	11 ,,
NOON	+ 4	+ 4	+ 5	+ 3	+ 6	+ 3	+ 4	+ 2	− 2	+ 1	NOON
1 P.M.	+ 2	+ 1	0	− 2	+ 1	− 1	− 3	− 6	−18	−14	1 P.M.
2 ,,	+ 1	+ 1	− 4	− 4	− 3	− 3	− 9	−10	−30	−22	2 ,,
3 ,,	0	0	− 7	− 5	− 5	− 4	−13	−13	−36	−30	3 ,,
4 ,,	0	0	− 8	− 6	− 7	− 5	−15	−15	−38	−34	4 ,,
5 ,,	+ 1	+ 0	− 7	− 6	− 6	− 5	−15	−15	−36	−34	5 ,,
6 ,,	+ 4	+ 1	− 3	− 5	− 3	− 3	−12	−13	−29	−31	6 ,,
7 ,,	+ 7	+ 4	0	− 1	+ 1	+ 1	− 7	− 9	−18	−24	7 ,,
8 ,,	+ 9	+ 8	+ 3	+ 4	+ 4	+ 5	− 2	− 1	− 7	−13	8 ,,
9 ,,	+11	+ 8	+ 8	+ 6	+ 7	+ 7	+ 3	+ 3	+ 2	− 4	9 ,,
10 ,,	+10	+10	+10	+ 9	+ 8	+ 9	+ 5	+ 7	+ 9	+ 5	10 ,,
11 ,,	+ 8	+ 6	+ 8	+ 7	+ 7	+ 7	+ 6	+ 8	+11	+10	11 ,,

If the temperature rises in the valley, the air is lifted so that more and more air is carried above the level of the mountain summit; this air will have a tendency to flow sideways towards the mountain, and will increase the statical pressure there, while at the same time the pressure over the valley is diminished. The opposite phenomenon occurs during the night, currents of cooled air flowing then from the mountains towards the valley. This diurnal shift of atmosphere appears indeed to be quite sufficient to explain the peculiar character of the barometric oscillation at mountain and valley stations. The static pressure should be least over the valley and greatest above the mountain at the time of maximum temperature, while at the coldest time of the day the state of matters should be reversed. The dynamical pressure, on the other hand, being a force that acts equally in all directions, should be the same at both localities. Hence the factor a of equation (8) should be largely positive in the case of mountain stations, but either very small, or even negative, in the case of valley stations, a fact which is clearly demonstrated in the figures of Table III.

The differences of pressure between a mountain and valley station are, according to this view, purely statical, and hence proportional to the change of temperature. Fortunately most satisfactory statistical materials for demonstrating the correctness of this statement are afforded by the monthly curves of diurnal pressure and temperature at Ben Nevis and Fort William.* I have utilised these data in the following manner. For all hours of the day, in each month, the differences of the hourly departures of pressure (Ben Nevis *minus* Fort William) were computed, and the diurnal curves of these differences were represented by graphs (Fig. 4). The same figure shows also the monthly diurnal fluctuations of the temperature at the Ben Nevis Observatory. The hourly departures of the differences of pressure between Ben Nevis and Fort William are also given in Table IV.

TABLE IV.—HOURLY DEPARTURES OF THE DIFFERENCE OF PRESSURE BETWEEN BEN NEVIS AND FORT WILLIAM.

(Unit, $\frac{1}{1000}$ inch.)

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
MIDNIGHT	−3	−3	− 6	− 9	−11	− 8	− 6	− 6	− 5	− 5	−4	−2
1 A.M.	−2	−4	− 6	− 7	−11	−11	− 7	− 6	− 6	− 4	−1	+1
2 „	−2	−4	− 7	−10	−14	−15	−10	− 8	− 9	− 4	−3	−1
3 „	+1	−4	6	−10	−15	−16	−11	− 9	− 7	− 3	0	+1
4 „	0	−5	− 8	−12	−19	−19	−13	−11	− 9	− 6	−2	−1
5 „	+2	−4	− 8	−13	−20	−20	−15	−11	− 8	− 4	−1	+1
6 „	+1	−5	−10	−14	−21	−21	−17	−13	−11	− 7	−2	−1
7 „	+1	−5	− 9	−14	−18	−18	−15	−13	− 9	− 6	−1	−1
8 „	0	−8	−10	−13	−16	−16	−13	−11	−10	− 8	−3	−2
9 „	−1	−5	− 6	− 8	− 9	− 9	− 9	− 7	− 7	− 8	−2	−1
10 „	−3	−4	− 6	− 4	− 5	− 5	− 4	− 5	− 5	− 7	−3	−3
11 „	−1	−2	− 1	+ 2	+ 4	+ 3	+ 2	+ 1	+ 2	− 1	−1	−2
NOON	0	0	+ 3	+ 8	+10	+ 7	+ 5	+ 5	+ 4	+ 2	−1	0
1 P.M.	+3	+4	+ 7	+13	+17	+14	+11	+10	+10	+ 6	+3	+2
2 „	+2	+6	+ 9	+16	+21	+17	+14	+12	+11	+ 8	+4	+3
3 „	+4	+8	+10	+19	+25	+21	+17	+14	+14	+12	+5	+4
4 „	+2	+7	+10	+19	+22	+22	+17	+14	+13	+ 9	+3	+1
5 „	+5	+9	+13	+20	+22	+23	+19	+15	+13	+ 8	+4	+4
6 „	+1	+4	+ 9	+16	+17	+19	+15	+12	+ 9	+ 4	+1	+2
7 „	+2	+5	+ 7	+12	+14	+17	+13	+ 9	+ 8	+ 2	+1	+1
8 „	−1	+1	+ 2	+ 4	+ 7	+10	+ 8	+ 5	+ 3	+ 1	−1	−1
9 „	+1	0	+ 2	+ 1	+ 3	+ 7	+ 4	+ 1	+ 1	0	−1	0
10 „	−1	0	− 2	− 3	− 3	+ 1	− 1	− 1	− 1	− 3	−2	−2
11 „	0	0	− 3	− 6	− 7	− 3	− 3	− 3	− 2	− 3	−1	−1

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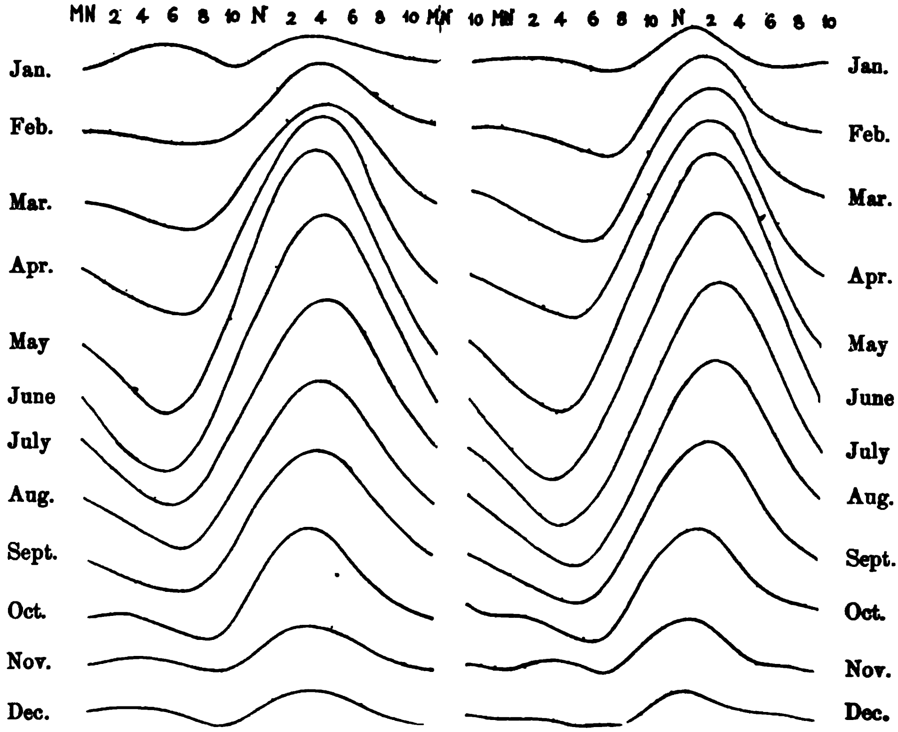
* *Trans. Royal Soc., Edin.*, vol. xliii. page 488 *et seq.*

A remarkable agreement will be noticed between the two groups of curves. This agreement not only refers to the general character of the curves, but extends even to minor details. Noteworthy in this respect is the appearance of a secondary maximum in the temperature-curve during the early morning hours in winter, which is distinctly imitated by the corresponding pressure-curves. I lay stress on this feature, because I think that it explains the Rykatchew maximum in the diurnal pressure oscillation, a phenomenon which has sometimes been attributed to a solar tidal action. We further notice that the amplitudes of the pressure- and temperature-curves are in almost strict proportion. To illustrate this more explicitly in Table V., the diurnal range of the pressure-curves of Fig. 4 is placed in comparison with the corresponding range of temperature at Fort William and Ben Nevis.



Diurnal Curves of Difference of Pressure between Fort William and Ben Nevis.

Diurnal Curves of Temperature (Ben Nevis).

Fig. 4.

The correspondence seems somewhat closer if the diurnal amplitude of the temperature of the low-level station is considered. On the other hand, however, we find the general character of the statical pressure-curves in better agreement with that of the temperature-curves of the mountain station. Specially noticeable in this respect are the summer months, in which the temperature curves of the low-level station show a pronounced retardation of the afternoon maximum not noticeable in the pressure fluctuation. We find also that the dynamical pressure is more closely represented by the temperature-curve of the mountain station. Similar conclusions have been obtained from a comparison of the St. Bernhard observations with those of Geneva. In both cases the mountain station seems to show a temperature-curve such as is required for representing both the statical and dynamical diurnal fluctuation of atmospheric pressure. This appears to me an interesting result, showing the great importance of observations made on mountains in problems dealing with the meteorological conditions of the otherwise unknown higher layers of the atmosphere.

TABLE V.—Diurnal Range of—

	Difference of Pressure. B. N.—F. W. ins.	Temperature. F. W. ° F.	Temperature. B. N. ° F.
January	0·005	1·8	0·6
February	0·014	4·2	1·6
March	0·020	6·4	2·3
April	0·032	9·3	3·2
May	0·043	10·8	3·9
June	0·043	10·5	4·3
July	0·033	8·7	3·9
August	0·026	8·1	3·5
September . . .	0·023	7·6	2·8
October	0·018	5·5	1·6
November . . .	0·007	2·7	0·8
December . . .	0·005	1·6	0·6

The results embodied in Table V. and Fig. 4 prove an important point of the theory. They demonstrate that the diurnal vertical movements of the air are indeed proportional to the diurnal changes of temperature, and hence that we are justified in considering these latter as a reliable measure for the changes of the height of the expanding and contracting atmosphere.

So far we have considered only the annual diurnal-curve. But it is essential to show also that the theory here proposed gives account of the characteristic and well-marked changes which the diurnal pressure-curve undergoes from one season to another.

It is a well-known fact, now clearly established by observations, that the positions of the maxima and minima undergo seasonal changes. The principal morning maximum appears earlier in summer, later in winter, whereas the secondary night maximum behaves in the opposite manner. The two maxima, therefore, are further separated in summer than in winter. On the other hand, the principal afternoon minimum is retarded in summer, and occurs earlier in winter. Likewise it is well established that the amplitude of the pressure-curve undergoes comparatively small changes in the course of the year.

Let us see how far these facts are accounted for by our theory, if we take the diurnal temperature-curves of Ben Nevis for the six winter months from October to March on the one hand, and for the six summer months from April to September on the other. The hourly departures are shown in the following Table VI. along with the second differences derived from them by the usual method:—

TABLE VI.

	SUMMER.		WINTER.			SUMMER.		WINTER.	
	$\vartheta-\vartheta_0$	$\frac{d^2\vartheta}{dt^2}$	$\vartheta-\vartheta_0$	$\frac{d^2\vartheta}{dt^2}$		$\vartheta-\vartheta_0$	$\frac{d^2\vartheta}{dt^2}$	$\vartheta-\vartheta_0$	$\frac{d^2\vartheta}{dt^2}$
	°	°	°	°		°	°	°	°
MIDNIGHT	−1·01	+·02	−·23	+·01	NOON	+1·46	−·09	+·65	−·11
1 A.M.	−1·16	−·04	−·28	+·02	1 P.M.	+1·84	−·20	+·74	−·10
2 „	−1·35	+·02	−·31	−·01	2 „	+2·02	−·15	+·73	−·11
3 „	−1·52	+·03	−·35	+·05	3 „	+2·05	−·25	+·61	−·10
4 „	−1·66	+·18	−·34	−·06	4 „	+1·83	−·15	+·39	−·02
5 „	−1·62	+·11	−·39	−·01	5 „	+1·46	−·13	+·15	+·10
6 „	−1·47	+·17	−·45	+·04	6 „	+0·96	+·01	+·01	+·07
7 „	−1·15	+·15	−·47	+·13	7 „	+0·47	+·02	−·06	+·06
8 „	−0·68	+·08	−·36	+·08	8 „	0·00	+·13	−·01	−·03
9 „	−0·13	+·02	−·17	+·15	9 „	−0·34	+·06	−·11	·00
10 „	+0·44	−·02	+·17	−·06	10 „	−0·62	+·06	−·15	+·02
11 „	+0·99	−·08	+·45	−·08	11 „	−0·84	+·05	−·17	−·04

In Fig. 5 the two theoretical curves for the dynamical pressure for summer and winter are graphically represented, along with the corresponding curve for the average year. The smooth curve is drawn closely along the actual, more irregular curve, to facilitate locating the maxima and minima. We notice at once that the same peculiarities are exhibited by these curves which are indicated in the actual observations, viz. the greater distance of the two maxima from the afternoon minimum in summer, the gradual reduction of that distance towards winter; further, the retardation of the afternoon minimum in the warm season, and *vice versâ*, acceleration at the cold time of the year. It is also obvious that the reduction of the amplitude from summer to winter is comparatively small, about 7 to 5, and in no proportion to the considerable diminution (3 : 1) of the amplitude of the $(\vartheta-\vartheta_0)$ curve. This is an interesting and very important feature. The great amplitude of pressure in winter seemed so far

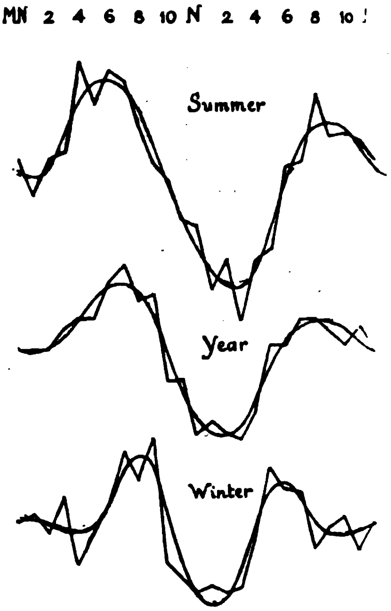


Fig. 5.

to present a serious obstacle to interpretations based on the diurnal change of solar radiation, but it is now demonstrated that the amplitude of the $\frac{d^2\vartheta}{dt^2}$-curve may be considerable, notwithstanding the small range of the ϑ-curve.

Of course there would be no difficulty in constructing now the different types of the summer and winter curves, for maritime and continental stations, from the materials given in Table VI., and by means of our fundamental equation (8). I have satisfied myself in various cases that those types can be represented with very much the same accuracy as in the case of the annual curves treated before. In these cases also, the dynamical effect has been found to be constant for all stations situated on the same parallel, whereas the statical effect showed the same dependence on the meteorological character of the station which had been found before. It would, however, require too much space to reproduce here the figures and curves relating to this part of the investigation. I may note, however, some other results made with the view of studying the influence of the latitude on the diurnal change of pressure, because they reveal a regularity of this latitude effect which, I think, meteorologists will scarcely have anticipated.

I have laid stress upon the fact that, from the theoretical point of view, the ϑ_Σ-curve is more correct than the ϑ-curve. Since the propagation of the expansive effects of the surface heating and cooling through the atmosphere is doubtless slow, we have to consider, at any particular moment, the *general* effect of all the temperature changes which are working throughout the whole depth of the air-column above our station, and not the one effect only, which is just acting at the base of the atmosphere. In some measure, at least, this is accounted for by taking the so-called "average" temperature, ϑ_Σ for the time τ during which a given expansive effect is propagated from the surface of the earth throughout the whole expanding atmosphere. If, for instance, a certain disturbance affects the surface layer at the moment t, and is propagated upwards during the time τ, we have, at the moment, $t + \tau$ to deal with all the disturbances transferred into the atmosphere since the moment t. These refer to all possible temperatures between t and $t + \tau$, and their average effect will be therefore approximately measured by the average temperature during the same interval.

The magnitude of τ can be estimated from the lag between the curves of surface temperature and pressure, and we conclude that it must be approximately six hours.

Let us now represent the surface temperature ϑ (annual hourly values) by means of a Fourier series of the form—

$$(9) \quad \vartheta - \vartheta_0 = a_1 \sin t + b_1 \cos t + a_2 \sin 2t + b_2 \cos 2t + a_3 \sin 3t + b_3 \cos 3t,$$

t representing astronomical time. This series, as experience shows, is highly convergent, the coefficients a and b becoming very small when the higher orders are approached.

Now let us form from this series the average temperatures ϑ_Σ. Obviously we have to integrate (*i.e.* to sum up) each term within the interval t and $t + \tau$, and to divide by τ. The result is, on the one hand, that the phase of the whole curve is altered by $\frac{\tau}{2}$, and, on the other hand, that all the coefficients are reduced. This reduction—as is well known—is the more considerable the higher the order of the coefficient, the result being that from a_3 onwards these coefficients become so insignificant that they have no effect, either on the ϑ_Σ- or the $\frac{d^2\vartheta_\Sigma}{dt^2}$-curve. Both these curves appear therefore practically reduced to the four first terms.

Now, in order to investigate the effect of latitude on the ϑ-curve, I have collected a great number of stations, for which hourly observations were available, into five groups of different latitudes, and have then represented in each group the hourly departures $(\vartheta - \vartheta_0)$ by means of a series of the form given under (9), which may also be written—

$$\vartheta - \vartheta_0 = A_1 \sin (t + \alpha_1) + A_2 \sin (2t + \alpha_2) + \ldots\ldots\ldots, \qquad (10)$$

$$\text{where } A_1 = \sqrt{a_1^2 + b_1^2},\ A_2 = \sqrt{a_2^2 + b_2^2}, \ldots\ldots\ldots \text{ and}$$

$$\tan \alpha_1 = \frac{b_1}{a_1},\ \tan \alpha_2 = \frac{b_2}{a_1},\ \ldots\ldots\ldots$$

The data, mostly taken from Guyot's Meteorological Tables in vol. 28 of the *Smithsonian Miscellaneous Collections*, led to the following results embodied in Table VII.:—

TABLE VII.

Latitude φ	No. of Stations.	A_1	α_1	A_2	α_2	A_2/A_1
°		°	°	°	°	°
17	10	2·55	51·8	0·74	70·4	0·29
42	10	3·36	51·9	0·60	55·5	0·18
51	13	2·84	52·0	0·48	68·2	0·17
59	8	2·16	54·7	0·33	63·4	0·15
71	3	1·34	67·5	0·13	63·4	0·10

We recognise that the two phases of α_1 and α_2 may be considered as practically constant in all latitudes, the discrepancies being most probably due to uncertainties in the employed materials.

The coefficients A_1 and A_2 are doubtless largely affected by local conditions, and it is difficult to define their relation to the latitude. But if we form the quotients A_2/A_1 (last column of Table VII.) we notice that these may be represented very approximately by an expression 0·31 cos φ, and hence we may generally conclude that the hourly temperature departures for a station at latitude φ are represented by the series—

$$\vartheta - \vartheta_0 = A_1 \left[\sin (t + 52^\circ) + 0{\cdot}31 \cos \varphi \sin (2t + 63^\circ)\right] + \ldots\ldots\ldots \qquad (11)$$

the higher terms being so small that they have no effect on the ϑ_2- and $\frac{d^2\vartheta_2}{dt^2}$-curves.

Now, if we assume $\tau = 6$ hours, and compute from (10) the corresponding series for $\vartheta_2 - \vartheta_0$, we obtain—

$$\vartheta_2 - \vartheta_0 = 0{\cdot}90\, A_1 \left[\sin\,(t + 7^\circ) + 0{\cdot}22 \cos\varphi \sin\,(2t - 27^\circ)\right], \qquad (12)$$

and this equation may be used in connection with equation (8) to compare our theory of the diurnal pressure with the results of observations made in various latitudes.

The remarkable result of the further investigation is that, if we write in (12) for the coefficient before the bracket: $1{\cdot}10 \cos^2\varphi$, the unit being one millimetre of pressure, *i.e.* if we put—

$$P = 1{\cdot}10 \cos^2\varphi \left[\sin\,(t + 7^\circ) + 0{\cdot}22 \cos\varphi \sin\,(2t - 27^\circ)\right], \qquad (13)$$

and write equation (8) in the form—

$$\varpi - \pi = a.\,P + \frac{d^2P}{dt^2}, \qquad (14)$$

this simple expression represents, with close approximation, the normal diurnal pressure-curve for any station on the globe.

No doubt in particular cases local abnormal conditions, which are not accounted for by the theory, may somewhat alter the character or the amplitude of the diurnal pressure-curve, but these disturbing effects are subordinate, and do not seriously affect the generality of equation (14).

The coefficient a of this equation must, of course, be determined in each particular case from the observations, since it depends on the peculiar conditions of the place under consideration.

In order to test the validity of equation (14) I have first derived the observed diurnal-curves for five groups of stations in different latitudes. These groups were—

Group 1. Mean latitude, 6°. Stations—Batavia, Atlantic Ocean (square 3), San José, Finchhafen, Kameroon.

Group 2. Mean latitude, 19°. Stations—Manila, Port au Prince, Tananarivo, Mexico, Rio de Janeiro, Bombay, Calcutta.

Group 3. Mean latitude, 41°. Stations—Pekin, Tiflis, Boston, Naples.

Group 4. Mean latitude, 50°. Stations—Prague, Munich, Magdeburg, Nertchinsk.

Group 5. Mean latitude, 59°. Stations—St. Petersburg, Helsingfors, Sitka, Catharinburg, Upsala.

If now we assume the following values for a:—

Group 1, $a = 0{\cdot}57$; Group 3, $a = 0{\cdot}33$; Group 5, $a = 1{\cdot}00$
Group 2, $a = 0{\cdot}50$; Group 4, $a = 0{\cdot}60$;

and compute the hourly departures $\varpi - \pi$ in each group from equation (14), we obtain the curves exhibited in Fig. 6. The observed values, on the other hand, are represented in the same figure by the black dots. On the whole, the agreement between theory and observation may be considered as very satisfactory. No doubt, small discrepancies are noticeable in all the curves, especially in that for 19° latitude. Nevertheless the great generality and universal applicability of equation (14) is demonstrated by the results of this investigation. It is astonishing that a theory, based on such simple physical considerations, should lead to so satisfactory results, even before any attempt is made to investigate the local abnormal features of the temperature-curve, by which doubtless the pressure phenomenon must in some measure be affected.

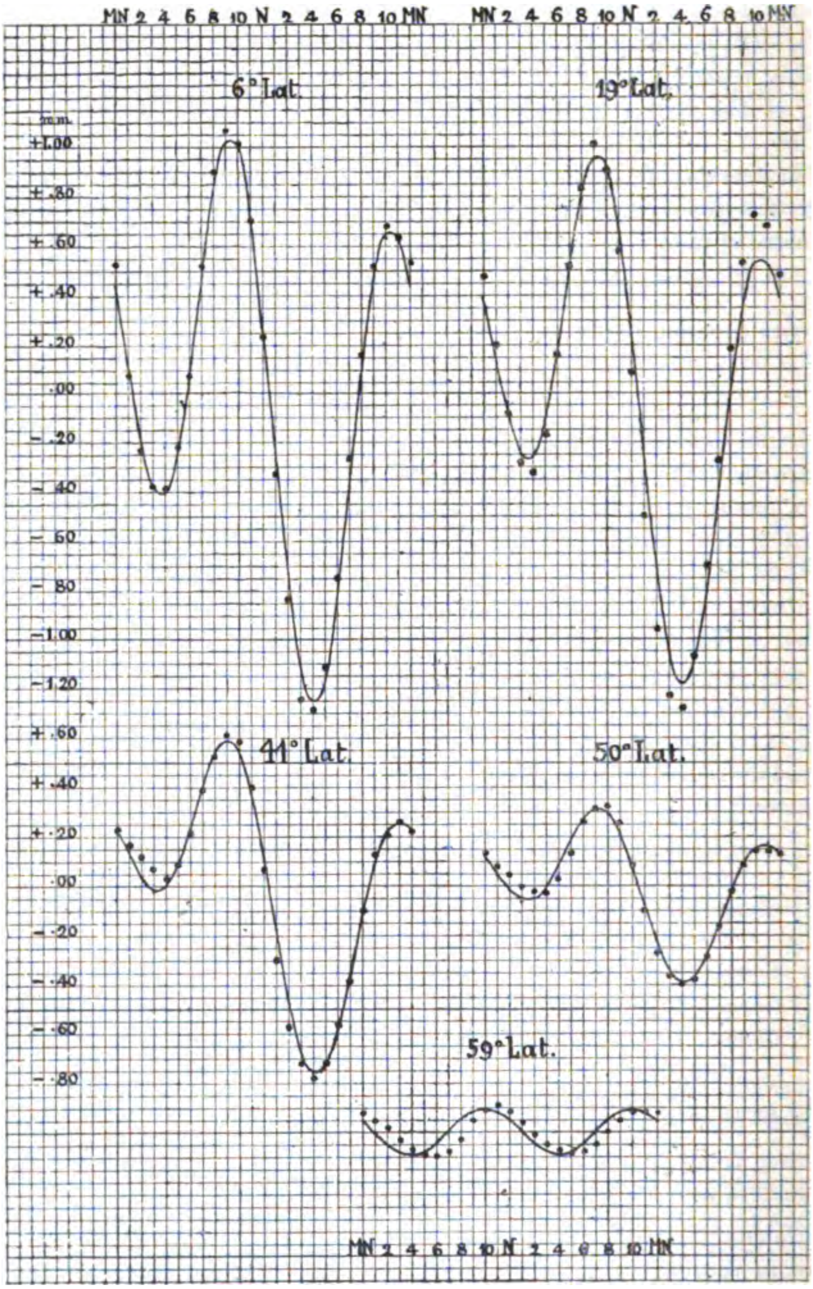


Fig. 6.

The fact that the amplitude of P is such a simple function of the latitude, suggests the same conclusion we had arrived at when discussing the phenomenon for stations along the same parallel, viz. that the diurnal expansion and contraction of the atmosphere depends on the sum total of diurnal insolation, *i.e.* on the combined effects of the kinetic and potential caloric energies working in our atmosphere throughout the day, and not on the former only. The law of the diurnal change seems to be approximately the same for both energies, as is evidenced by the close similarity between the diurnal-curves of temperature and moisture, and hence the kinetic-curve alone, *i.e.* the curve of diurnal temperature, may be sufficient for the determination of the *character* of the diurnal pressure fluctuation. But its *amplitude*, depending on the *total* effect of the diurnal action of the sun, must show a greater uniformity and regularity than that of the kinetic-curve, since our experiences tend to show that a decrease of diurnal amplitude of the kinetic energy is accompanied by an increase of diurnal amplitude of the potential energy.

There is an interesting result, following at once from the character of equations (13) and (14), which I may mention here, because it confirms a fact already well known to meteorologists.

Let us take, for instance, a special case, say $\phi = 50°$. The equation for P has then the numerical form

$$P = 0{\cdot}454 \sin (t + \alpha_1) + 0{\cdot}064 \sin (2t + \alpha_2) \tag{15}$$

If this equation be differentiated twice with regard to t, we obtain

$$\frac{d^2P}{dt^2} = -0{\cdot}454 \sin (t + \alpha_1) - 0{\cdot}256 \sin (2t + \alpha_2) \tag{16}$$

By means of (14), by assigning appropriate values to a, we can compute the normal pressure-curves for any locality on the 50° parallel. Now let us consider, on the one hand, a station of maritime or mountain character, for which a is a large positive quantity, say $a = +1$; and on the other hand a station of an extreme valley character, for which a is negative, say $a = -1$. From (14) we find for—

Mountain station: $\pi - \pi_0 = 0{\cdot}000 \sin (t + \alpha_1) - 0{\cdot}192 \sin (2t + \alpha_2)$.

Valley station: $\pi - \pi_0 = -0{\cdot}908 \sin (t + \alpha_1) - 0{\cdot}302 \sin (2t + \alpha_2)$. (17)

It is obvious, therefore, that the coefficient of the first term on the right-hand side is subject to far more considerable fluctuations than that of the second term. In fact, since in reality the limits of a are much narrower than those here chosen, we may say that the second term is very little affected by the peculiar type of the locality, whereas the first term varies considerably. Considering the second term in relation to the latitude, we may therefore conclude that, irrespective of the meteorological character of the stations, the term, which obviously marks half the amplitude of the semi-diurnal oscillation, is almost strictly proportional to the cube of cos ϕ, and can be expressed by $0{\cdot}97 \cos^3\phi$ in units of the millimetre.

The result has already been found empirically, and is doubtless well known to meteorologists. (See, for instance, Arrhenius, *Lehrbuch der Kosmischen Physik*, p. 603.)

With regard to the *seasonal* change of the semi-diurnal amplitude, we arrive at a conclusion again supporting our theoretical view. If we compare the corresponding amplitudes of the diurnal temperature-curves for the different months of the year, we find that these amplitudes show two maxima at the time of the equinoxes, and two minima at the solstices. I subjoin, as an example, the monthly semi-amplitudes derived by Colonel Strachey from the observations made at seven British Stations—

TABLE VIII.

	° F.		° F.		° F.
January . .	0·62	May . . .	0·42	September . .	0·87
February . .	0·77	June . . .	0·33	October . .	1·02
March . . .	0·83	July . . .	0·34	November . .	0·79
April . . .	0·76	August . .	0·66	December . .	0·59

Our theory leads us to expect a similar semi-annual fluctuation in the amplitudes of the semi-diurnal pressure oscillation. The observations confirm indeed this conclusion, as will at once be seen from the collection of data published by Arrhenius on p. 603 of his *Lehrbuch.* It appears, however, that the summer minimum of the pressure amplitude is less intense than should be expected from Table VII. This is, in my opinion, due to the fact that the character of the diurnal-curve of pressure is of a more continental or valley type in summer; a fact clearly indicated by the observations, and also easily understood from the point of view of this present theory. For, if surface friction causes the diminution of a, which leads to the continental type, by retarding the flow of air from denser to less dense parts of the atmosphere, we must expect that the retardation is relatively the more intense the greater the velocity of the flow, and hence that a should be smaller in summer than in winter. But our example (17) shows that the semi-diurnal amplitude is greater for more continental conditions, and this may therefore, perhaps, explain the fact that the summer amplitude of the pressure-curve is greater than the corresponding amplitude of the temperature would lead us to expect.

I admit that there are several points on which the theory cannot give explanations. One of the most interesting of these is the difference in type of the pressure-curves in fine and cloudy weather, recently investigated by Dr. Buchan and Mr. Omond.* The physical aspect of the problem is of course altered if we have to shift the scene of action from the surface of the soil to the outer boundary of a layer of clouds, and, in absence of any knowledge as to the temperature fluctuations in the higher stratum, it would be presumption to venture upon speculative ground.

One conclusion, however, may be safely drawn, viz. that there should be no great difference in the *amplitude* of diurnal pressure under the two extreme conditions.

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* *Trans. Roy. Soc., Edin.*, vol. xlii. p. 448.

Attention must also be drawn to a possible difference in phase between the statical and dynamical effect. We have so far assumed that the extreme values of the *weight* of the atmosphere are reached exactly at the moments of the maximum or minimum of its *height*. Whether this assumption be correct is not possible for us to surmise. But it is certainly of some interest to investigate empirically how far the character of the pressure-curve is changed, by assuming such a difference of phase between the statical and dynamical effect. For this purpose let us revert to Table II., showing the hourly values of $(\vartheta_2 - \vartheta_0)$ and $\frac{d^2\vartheta_2}{dt^2}$ (deduced from the Greenwich temperature observations), and let us compute $(\pi - \pi_0)$ from equation (8) by assuming $a = 0{\cdot}5$, which corresponds to an average continental condition. Let us first assume that the phase is the same, *i.e.* let us combine the values of $(\vartheta_2 - \vartheta_0)$ and $\frac{d^2\vartheta_2}{dt^2}$ belonging to the same horizontal line. The resulting curve of the pressure is represented by the drawn-out curve of the top diagram in Fig. 7.

Now let us suppose the statical effect to lag behind the dynamical effect by, say, two hours. Correspondingly we shift the $(\vartheta_2 - \vartheta_0)$ values in Table II. two hours in the forward direction, and compute again $(\pi - \pi_0)$. We then obtain the stroked-line curve in the same diagram.

Finally, let us assume the opposite state of matters, viz. that the statical effect precedes the dynamical effect by two hours. The result of our computation shows the dotted curve in the top diagram of Fig. 7.

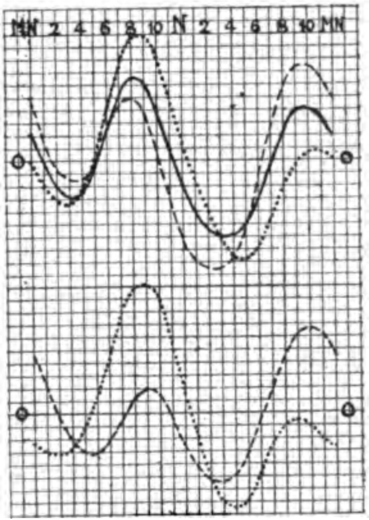

Fig. 7.

We notice at once some very striking deviations in these three curves which result from the assumed differences in phase. Not only the positions of the maxima and minima, but also their magnitudes are considerably altered. This applies specially to the two maxima. In the one curve the night maximum overbalances the morning maximum, while in the other curve the opposite feature is plainly recognisable.

Now let us compare with the two extreme curves of this diagram the pressure-curves for cloudy and fine weather obtained at one of the stations investigated by Dr. Buchan and Mr. Omond. I select Magdeburg in Prussia, because its normal curve agrees fairly well with our assumption $a = 0{\cdot}5$. In the lower diagram of Fig. 7 we see these two curves, the stroked-line curve representing the cloudy, and the dotted curve the fine weather conditions. We notice at once that these two curves exhibit the very same peculiarities which we found in the two extreme cases in the upper diagram. Hence it seems not unlikely, that the characteristic differences between the overcast and fine weather diurnal pressure-curves are chiefly due to difference of phase between the statical and dynamical pressure effect, the statical effect lagging behind the dynamical effect in cloudy weather, and preceding it on cloudless days. Whether this explanation is correct on physical grounds I am not able to say, but the correspondences are so remarkable that I am inclined to look for a solution of this interesting question in the direction here indicated.

In submitting to the criticism of experts the theoretical views on the diurnal change of pressure expressed in this communication, I must repeat what I said in the introductory remarks, that it is far from me to offer a complete theory of this important and difficult phenomenon. What I chiefly wish to point out is the fact that a simple and direct connection between the diurnal change of temperature and that of pressure is made probable on the basis of the physical reasoning adopted in the preceding pages.

Those familiar with the problem will no doubt have recognised that my views on the dynamical pressure agree essentially with those advanced by Blanford many years ago. It had also been recognised long before this that the differential equation (4) is the mathematical expression from which the dynamical effect has to be obtained. The difficulty so far, however, has been to define h as a function of the time of the day. This obstacle has here been removed by the consideration of the convective equilibrium of the lower strata, a consideration through which at once a simple relation between h and the surface temperature could be established. The introduction of this consideration I take to be the salient point of the whole theory.

But even apart from the question as to the merits of the proposed explanations, the mere fact that the curve of diurnal pressure can be so simply and completely represented by the observed fluctuations of temperature is in itself of meteorological importance. If we consider the many laborious, and I may frankly say often artificial, efforts which have been made in order to explain the *double* periodicity of the pressure-curve, the simple way in which here this so far enigmatic feature is developed directly from the periodic temperature fluctuation, may surely claim the attention of meteorologists.

2.

REPORT from the COUNCIL to the GENERAL MEETING of the SOCIETY, held on March 16, 1905.

A new Station has been opened at Balta Sound, Shetland, by Dr. Saxby, and the Station at Haddington, which had been discontinued for some years, has been reopened under the direction of Dr. Ronaldson. The only other change in the Society's Stations is at Rothesay, where Mr. James Kay, who has been the Observer there for nearly thirty years, has retired. Rothesay is one of the oldest Stations in Scotland, and the Council are glad to be able to state that the observations are being continued under the charge of Mr. Robert Henderson, of the Glenburn Hydropathic.

The following Stations have been inspected since last March by Dr. Buchan:—Lerwick, Dunrossness, Kirkwall, Deerness, Stornoway, Lairg, Aberdeen, Crathes, Peterhead, Nairn, Dunrobin, Wick, Kyleakin, Fort Augustus, Fort William, Corran, Laudale, Poltalloch, Rothesay, Dundee, Balruddery, Edinburgh, Leith, Ochtertyre, Clathick, Dumfries, Wolfelee, Cally, and Cargen; and by Mr. Watt:—Duns Castle and Helensburgh.

There are three vacancies on the Council, due to the retirement by rotation of Mr. J. G. Bartholomew and Mr. T. Mackay Bernard, and the resignation of Professor Copeland. The Council recommend the re-election of Mr. Bartholomew and Mr. Mackay Bernard, and the election of Mr. Ralph Richardson in place of Professor Copeland.

The Registrar-General for Scotland has been regularly supplied with the Monthly and Quarterly Reports from this Office; and also, direct from the Observers in the eight large towns of Scotland, with the Daily Observations of Temperature and Rainfall required for his Weekly Reports.

The Meteorological Council of London has been supplied with Monthly and Annual Summaries of the Observations at sixteen of the Society's Stations, and with copies of the Bi-daily Readings at three of these.

The Council has also received, direct from the Society's Observers at Glencarron, Fort Augustus, Braemar, Ochtertyre, Marchmont, and Cally, Daily Observations of Temperature and Rainfall, with in some cases Sunshine, for their Weekly Weather Reports. Similar data were also sent from Fort William up to the end of September.

Meteorological statistics have also been sent as usual to several Medical Officers of Health in various parts of Scotland for their annual reports.

The next number of the *Journal* is in the press, and will be issued in a few days.

The Ben Nevis and Fort William Observatories were carried on as usual till the end of September last. The Directors desire to convey their cordial thanks to the Rev. J. S. Begg and Messrs. W. R. Bruce, H. R. Baxter, and F. R. Lucas for their valuable services as volunteer observers during last summer. The observations were stopped on 1st October 1904. The reasons which rendered it necessary to close these Observatories are stated in a Memorandum issued by the Directors of the Observatories in November last. This Memorandum is printed in last number of *Journal*. (See *Journal*, vol. xiii. p. 38).

Dr. Buchan has been chiefly engaged on the completion of his paper on the "Relations of the Hourly Observations at Ben Nevis and Fort William," which will appear in the third volume of these observations.

REPORT from the COUNCIL to the GENERAL MEETING of the SOCIETY, held on July 18, 1905.

There has been no change in the Society's Stations since the Meeting in March.

The Registrar-General for Scotland has been regularly supplied with the Monthly and Quarterly Reports from this Office; and also, direct from the Observers in the eight large towns of Scotland, with the Daily Observations of Temperature and Rainfall required for his Weekly Reports.

The Meteorological Council at London has been supplied direct from the Observers at Glencarron, Fort Augustus, Braemar, Clathick, Marchmont, and Cally, with Daily Observations of Temperature and Rainfall, and in some cases Sunshine, for their Weekly Weather Reports.

As stated in the Report to the Meeting in March last, the Ben Nevis and Fort William Observatories were closed in October 1904. The buildings on Ben Nevis, and the bridle-path which extends from the foot of the hill to the summit, have now been handed over to the proprietor of the ground, in accordance with the stipulation in the Feu-Charter, by which, when the building ceased to be used as an Observatory, the ground and all buildings on it revert to the Superior. The Observatory in Fort William has been advertised for sale, but has not yet found a purchaser. As soon as the Fort William Observatory is sold, the Observatories' Fund will be wound up and the Board of Directors dissolved.

The closing of the Ben Nevis Observatories and the disappearance of the Board of Directors can only be regarded as a great blow to Meteorological investigation in Scotland.

The important work of studying and discussing the Ben Nevis records will now devolve on the Society. It has no funds available for this purpose, but certain charges in connection with the examination and discussion of the Ben Nevis observations, which were formerly paid by the Ben Nevis Observatories' Fund, have, since 31st December last, been borne by the Society. During these six months the Society has received some special donations from gentlemen interested in the continuance of the discussion of the Ben Nevis records, which have enabled it to meet this additional outlay. Intimation has also been received that for the ensuing academic year 1905–6 a sum of £100 will be granted for this object to Dr. Buchan by the Carnegie Trust for the Endowment of Post-graduate Research. More than this, however, will be needed if the Ben Nevis record is to be fully utilised.

The third volume of the Ben Nevis Observations, containing the records for the years 1893 to 1897 inclusive, is approaching completion.

ABSTRACT OF THE ACCOUNTS OF THE SCOTTISH METEOROLOGICAL SOCIETY, FROM 30TH JUNE 1904 TO 30TH JUNE 1905.

CHARGE.

	£	s.	d.	£	s.	d.
I. **Balance** from last Account				£327	14	11
II. **Income** during Year—						
Annual Subscriptions	£262	19	6			
Life Members' Subscriptions	25	10	0			
Donations	137	12	6			
Legacies	...					
Proceeds of *Journals* sold and Advertisements	11	11	0			
Sum received from Meteorological Council for Weather Reports	106	7	2			
Grant from Government	100	0	0			
Interest received, *less* paid	10	12	5			
				654	12	7
Note—						
Income	£654	12	7			
Expenditure	635	11	7			
Surplus for Year	£19	1	0			
Add Balance on last Account, as above	327	14	11			
	£346	15	11			
				£982	7	6

DISCHARGE.

	£	s.	d.	£	s.	d.
I. **Expenditure** during Year—						
Salaries				£451	1	5
Travelling Expenses of Secretary visiting Stations				0	9	6
Printing (including *Journal*), Stationery, Postages, and Incidents				114	1	6
Advertising				2	10	0
Office Rent, Gas, Taxes, Insurance, and Cleaning	£65	19	0			
Less Proportion paid by Ben Nevis Observatory Fund (half-year)	3	10	0			
				62	9	0
Furnishings and Instruments				5	0	2
				£635	11	7
II. **Balance** at close of this Account—						
Loan to Ben Nevis Observatory Fund	£300	0	0			
Due by Union Bank of Scotland, Edinburgh, on Account Current	41	10	9			
Balance due by Treasurer	5	5	2			
				346	15	11
				£982	7	6

Edinburgh, 17*th July* 1905.—Examined and found correct.

P. C. ROBERTSON, C.A., *Auditor.*

ABSTRACT OF THE ACCOUNTS OF THE BEN NEVIS OBSERVATORY FUND, FROM 30TH JUNE 1904 TO 30TH JUNE 1905.

CHARGE.

	£	s.	d.	£	s.	d.
I. **Income** during Year—						
Subscriptions and Donations				£6	0	0
Grants from Meteorological Council—						
For Low-level Observatory	£125	0	0			
For High-level Observatory	50	0	0			
				175	0	0
Road Permits sold				79	4	0
Telegrams				83	14	1
Deposit for Private Wire recovered				10	0	0
Proceeds of Horses, Cart, and Harness sold				19	0	0
				£372	18	1
II. **Balance** at close of this Account—						
Loan from Scottish Meteorological Society	£300	0	0			
Balance due to Union Bank of Scotland, Edinburgh	838	6	9			
Balance due to Superintendent	10	3	10			
Balance due to Treasurer	8	8	10			
	£1156	19	5			
Less—						
Balance due by Bank of Scotland, Fort William, on Account Current	23	9	8			
				1133	9	9
				£1506	7	10

DISCHARGE.

	£	s.	d.	£	s.	d.
I. **Balance** from last Account				£797	19	2
II. **Expenditure** during Year—						
Provisions and Stores	£78	6	11½			
Salaries and Wages	304	19	4			
Telegrams	64	17	7			
Horses' Keep, and Repairs to Harness	50	13	6			
Photo Paper, Charts, etc.	13	10	9			
Furnishings and General Repairs	15	13	8½			
Electric Light	4	8	9			
Repairs to Instruments	1	6	0			
Insurance	5	15	9			
Feu-duties	19	17	11			
Taxes	6	19	2			
Interest paid, *less* received	42	17	7			
Travelling Expenses	2	7	0			
Printing, Stationery, and Advertising	43	10	1			
Office Rent, Postages, Telegrams, Audit Fee, etc.	11	1	8			
Outlays at Observatories	9	19	4			
Sum handed to Royal Society (for Printing)	32	8	7			
				708	8	8
Note—						
Income	£372	18	1			
Expenditure	708	8	8			
Deficit for year	£335	10	7			
Deficit from last Account	797	19	2			
Total Deficit at 30th June 1905	£1133	9	9			
				£1506	7	10

Edinburgh, 17*th July* 1905.—Examined and found correct.

P. C. ROBERTSON, C.A., *Auditor.*

3. (1) TABLE OF ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1904.

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Dunrossness,	Shetland,	5·25	2·79	1·83	5·05	2·26	1·32	1·29	2·61	2·39	4·33	3·72	5·16	38·00
Lochend,	„	5·23	4·76	3·53	4·57	2·94	2·34	1·48	3·08	2·03	6·48	5·05	6·57	48·06
Balta Sound, Halligarth,	„	...	...	3·04	3·99	2·45	1·84	1·01	2·09	2·05	4·96	4·58	5·76	...
Balfour Castle,	Orkney,	2·90	2·45	2·15	3·55	1·20	1·50	0·80	2·65	2·40	2·61	2·90	4·20	29·31
Wick,	Caithness,	1·50	1·83	1·40	3·86	1·68	1·35	1·26	3·30	2·65	2·27	2·31	1·88	25·29
Watten,	„	1·34	3·01	0·94	3·19	1·26	1·30	1·53	2·87	2·79	1·70	2·20	2·46	24·59
Bettyhill,	„	2·60	2·53	0·48	5·03	1·01	0·95	1·28	4·98	2·49	3·09	4·28	3·76	32·43
Castletown,	„	1·86	4·40	1·93	4·17	1·39	1·22	1·04	3·06	3·23	3·27	3·78	4·09	33·44
Invershin,	Sutherland,	1·64	3·86	0·80	4·44	1·54	1·17	0·75	3·68	2·24	2·38	2·80	2·78	28·08
Altnaharra,	„	3·21	3·06	1·48	6·67	1·74	2·15	1·47	2·17	2·97	2·94	4·49	5·79	38·14
Stornoway,	Ross,	5·55	4·74	2·82	6·79	2·50	2·15	2·17	5·26	4·14	5·40	6·45	7·75	55·72
Strathpeffer,	„	1·83	2·13	0·66	3·83	2·00	1·50	0·71	3·20	2·22	1·63	2·21	3·61	25·53
Swordale House,	„	1·40	3·10	0·50	4·50	2·10	1·00	0·90	3·00	1·70	1·70	2·50	4·00	26·40
Fearn,	„	0·54	2·21	0·41	2·33	0·86	0·83	0·87	3·36	2·34	1·65	1·79	1·96	19·15
Ardross Castle,	„	2·65	4·89	1·37	3·72	2·43	1·53	1·85	4·13	2·33	2·42	3·08	4·46	34·86
Strathconan,	„	6·56	3·95	1·34	9·09	4·46	1·60	0·31	3·74	1·79	3·48	4·91	4·58	45·81
Applecross,	„	6·42	4·36	3·24	6·91	3·50	5·00	2·59	6·01	5·83	5·02	6·31	6·29	61·48
Loch Drome,	„	5·50	8·73	6·64	9·47	6·46	2·17	5·18	6·20	4·24	6·71	7·42	11·66	80·38
Loch Bhraon,	„	6·30	3·55	1·70	9·40	3·62	5·02	1·20	3·70	7·92	5·09	4·05	10·65	62·20
Braemore House,	„	6·56	3·48	1·50	9·25	3·75	4·25	1·07	4·12	8·00	5·00	4·15	10·70	61·83
Foich Lodge,	„	4·40	2·70	0·48	8·10	3·05	2·40	0·95	3·55	6·10	4·03	3·15	9·50	48·41
Bendamph,	„	12·58	3·76	5·68	12·15	6·22	5·83	3·16	7·10	8·29	7·39	6·70	8·73	87·58
Lochmaddy,	Inverness,	4·74	5·63	2·65	4·02	2·62	2·34	2·02	5·88	3·10	4·18	3·90	4·77	45·85
S. Uist, Askernish,	„	4·60	3·81	2·48	5·58	3·48	2·58	2·29	...	...	...	...	...	...
Kinlochmoidart,	„	9·26	7·36	9·13	6·45	5·98	4·25	4·26	7·21	6·46	6·39	7·50	5·65	79·90
Glenquoich,	„	14·57	7·26	5·76	17·86	8·77	7·05	4·39	8·45	8·92	10·62	10·70	15·35	119·70
Invergarry,	„	8·55	4·39	3·13	11·44	5·55	3·61	2·18	4·53	5·72	3·85	3·77	6·66	63·38
Glenfinnan,	„	12·67	8·07	5·17	15·18	7·46	8·78	5·76	6·72	10·22	10·49	7·11	14·05	111·68
Aviemore,	„	2·01	1·34	1·22	2·96	3·67	1·42	1·04	3·67	2·43	1·83	1·68	3·13	26·40
Drumnadrochit,	„	3·61	2·16	1·04	4·15	3·01	1·95	0·87	3·28	2·45	1·74	2·47	3·78	30·51
Killin, Loch Ness,	„	5·90	2·40	1·90	7·10	3·40	2·70	1·40	4·10	3·60	2·00	2·00	3·30	39·80
Garthbeg, „	„	6·67	3·67	1·54	8·15	4·37	2·02	0·97	3·90	1·89	2·41	3·04	7·08	45·71
Aberchalder, „	„	3·29	2·05	1·05	4·68	3·05	1·92	0·88	4·62	2·51	1·46	3·28	3·99	31·78
Foyers, „	„	3·80	2·32	1·38	6·10	2·94	1·84	1·38	4·50	2·78	2·10	2·48	5·26	36·88
Mucomir,	„	6·44	4·46	2·92	7·30	4·90	3·51	3·72	5·42	6·96	4·40	4·20	7·19	61·42
Delnies,	Nairn,	1·32	2·30	0·50	2·09	1·67	1·55	0·63	3·98	1·70	1·27	1·58	2·19	20·78
Achareidh,	„	0·60	1·94	0·45	1·42	1·33	1·17	0·45	4·03	1·65	1·24	1·58	1·82	17·68
Budgate,	„	1·61	2·29	0·63	2·77	2·22	1·50	0·63	4·04	1·73	1·33	1·67	2·26	22·68
Grantown,	Elgin,	1·40	1·96	0·88	2·88	2·26	1·10	1·21	3·88	1·98	1·81	2·62	2·76	23·64
Archiestown,	„	1·12	2·30	0·71	1·60	2·49	1·04	1·19	4·27	2·50	1·73	2·65	2·42	24·02
Duffus House,	„	0·48	2·40	0·81	1·80	1·57	1·23	0·26	3·03	2·19	1·38	1·94	2·57	19·66
Kinloss,	„	0·60	2·53	0·50	1·53	1·59	0·84	0·57	3·86	2·02	1·54	1·47	2·30	19·35
Cullen House,	Banff,	1·70	2·10	3·20	1·30	1·20	1·80	0·70	4·50	2·50	2·60	3·10	4·40	29·10
Earl Hill,	„	1·32	2·26	1·29	2·14	1·44	0·85	0·40	4·92	2·13	1·05	1·75	2·61	22·16
Aberlour,	„	1·08	2·50	0·76	1·74	2·07	1·02	0·91	3·24	2·17	0·58	2·32	2·33	20·72
Dufftown,	„	1·16	2·96	1·08	2·61	2·50	1·20	1·33	4·43	2·21	1·69	2·95	3·90	28·02
Keith,	„	1·17	3·35	0·93	2·09	2·69	1·64	0·86	5·14	2·58	2·15	2·39	3·72	28·71
Coldstone Sc'lhouse,	Aberdeen,	1·55	4·20	1·84	2·20	2·96	0·82	1·32	4·52	2·10	0·77	1·55	2·90	26·73
Alford,	„	1·28	4·20	1·96	1·97	2·88	0·95	1·61	3·04	2·16	1·15	2·08	2·33	25·61
Aberdeen, M.C.,	„	2·03	3·55	2·49	1·88	2·80	0·91	1·06	2·23	2·15	0·87	1·22	2·53	23·72
New Deer,	„	2·53	3·63	2·41	2·20	2·48	0·90	1·53	2·74	3·29	1·85	2·00	2·79	28·35
Cranford,	„	2·32	4·07	2·94	1·83	2·86	0·91	1·32	2·31	2·33	1·03	1·41	2·80	26·13
Johnston Lodge,	Kincardine,	2·00	7·24	3·93	2·04	1·56	0·62	1·76	4·46	2·62	0·77	1·45	2·65	31·10
The Burn,	„	2·17	4·62	2·76	2·11	2·57	1·05	1·00	4·69	3·12	1·02	1·53	3·30	29·94
Arbroath W'rw'ks—	Forfar,	1·46	3·75	1·43	1·33	1·63	0·56	0·77	4·46	1·62	0·74	0·73	1·16	19·64
Brechin,	„	2·03	4·61	2·63	1·76	2·31	0·96	0·77	4·84	2·78	0·72	0·80	2·36	26·57
Buddon Ness,	„	1·61	3·73	1·55	1·21	2·07	0·54	0·89	3·83	1·62	0·62	0·73	1·39	19·79
Broughty Ferry,	„	1·71	4·20	1·61	1·36	2·18	0·42	1·29	4·69	2·09	0·61	0·61	1·70	22·47
Dundee Waterw'ks—														
Hillhead,	„	2·09	4·65	2·21	1·73	2·77	0·82	1·27	5·79	3·33	1·09	1·01	1·96	28·72
Crombie,	„	2·45	5·59	2·47	2·30	2·82	0·66	1·32	6·70	3·50	1·12	1·05	2·82	32·80
Craigton,	„	2·00	4·66	2·03	1·48	2·55	0·79	1·28	5·79	3·27	1·00	0·94	1·89	27·68
Balnakeilly,	„	2·90	4·00	2·40	3·20	2·80	1·60	2·00	4·60	2·70	1·80	0·90	2·60	31·50
Creich Hill,	„	2·80	4·00	1·50	3·00	2·80	1·90	2·50	4·40	2·70	1·90	0·80	2·70	31·00
Lintrathen,	„	3·30	4·30	2·50	3·40	3·00	1·70	2·50	5·00	2·70	1·90	1·00	3·20	34·50
Glendamff,	„	2·90	(6·50)		3·10	2·90	2·10	4·50	5·30	3·00	2·60	0·90	2·60	36·40
Barney,	„	2·90	4·70	1·90	3·30	2·80	2·00	3·00	5·20	2·90	2·40	1·30	2·80	35·20
Longdrum,	„	2·40	5·00	1·90	3·90	2·40	2·10	2·50	6·00	2·80	2·20	1·60	2·80	35·60
Glendye,	„	2·80	4·90	1·60	3·90	2·60	1·70	2·00	5·30	2·90	2·30	0·80	2·60	33·40

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1904—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Rannoch Station,	Perth,	5·67	3·88	2·94	7·05	5·00	3·57	2·04	4·05	5·17	3·62	4·38	5·11	52·48
Blair-Atholl,	,,	3·39	2·58	1·67	4·01	1·45	1·97	1·77	4·13	3·44	0·91	1·63	3·33	30·28
Coupar-Angus,	,,	2·07	3·70	1·90	2·27	2·40	0·86	2·28	4·34	2·46	0·97	0·69	2·16	26·10
Ardvorlich,	,,	8·44	6·56	4·85	9·03	3·77	4·44	3·96	6·42	7·79	2·62	1·32	7·58	66·78
Glasgow Wat'w'ks—														
Glengyle,	,,	7·40	7·00	8·20	11·60	7·60	5·30	5·50	6·60	9·90	5·80	3·50	10·40	88·80
Hill above Tunnel at Loch Katrine,	,,	9·50	6·80	5·20	11·10	4·80	5·10	4·70	7·30	8·50	6·80	3·90	10·50	84·20
Ledard,	,,	8·75	4·00	3·00	7·70	6·40	4·15	5·05	8·05	8·75	4·25	1·85	4·75	61·70
Loch Dhu,	,,	9·40	7·30	4·60	10·30	5·40	4·10	4·60	7·60	9·30	5·40	3·60	10·00	81·60
Duchray Head,	,,	6·40	2·00	6·20	13·60	9·40	7·60	8·80	12·20	16·50	8·40	4·80	10·30	106·20
Bet. Glen Finlas and Ben Ledi,	,,	3·20	3·30	1·60	3·50	5·30	3·20	3·40	6·20	6·40	3·40	2·00	3·60	45·10
Brig o' Turk,	,,	6·85	5·60	3·60	8·05	5·45	3·20	4·50	6·70	7·80	4·05	2·30	8·40	66·50
Loch Drunkie,	,,	6·80	5·00	3·80	8·30	5·50	3·20	2·90	6·60	6·80	4·70	2·40	9·30	65·30
Loch Vennachar,	,,	5·60	5·00	2·70	6·20	4·50	2·60	3·30	7·30	5·80	3·30	1·60	6·50	54·40
Aberfoyle,	,,	6·15	5·80	2·55	6·40	4·40	3·50	3·50	7·00	6·00	3·35	2·00	3·95	54·60
Leny,	,,	5·80	5·20	2·50	7·80	4·00	2·00	3·00	6·50	6·80	3·50	2·10	8·60	57·80
Doune,	,,	3·40	3·22	1·91	5·15	4·00	1·96	2·62	4·72	4·02	1·79	1·68	4·48	38·95
,, Gartincaber,	,,	3·49	3·57	1·82	4·76	4·00	1·99	2·66	5·23	4·07	2·00	1·55	4·74	39·88
,, High Braes,	,,	4·16	4·46	2·64	5·75	4·31	2·24	3·92	7·61	6·44	3·30	1·97	6·39	53·19
Net'r Cambushinnie,	,,	4·04	3·56	2·59	5·97	3·73	2·25	3·41	5·71	4·88	2·75	1·62	5·10	45·61
Lanrick Castle,	,,	3·90	4·10	2·00	5·55	3·70	1·95	2·70	5·60	4·50	2·80	1·60	5·20	43·60
St. Fillans,	,,	7·86	6·01	2·83	6·90	3·73	3·76	2·93	6·39	7·28	2·11	1·82	6·27	57·89
Lynns,	,,	3·43	2·91	2·05	4·45	3·33	1·48	2·70	4·96	3·25	1·50	1·54	4·82	36·42
Kippenross,	,,	3·50	3·30	1·15	1·25	1·10	1·85	1·70	4·60	3·40	1·35	1·45	4·50	29·15
Kippendavie,	,,	3·88	3·51	2·33	5·31	6·55	2·15	3·20	4·94	5·29	2·12	2·20	5·62	47·10
Glensherup,	,,	4·00	5·00	4·45	5·00	3·00	2·00	3·22	6·35	2·00	3·29	1·80	3·00	43·11
Bridge of Earn,	,,	3 10	3·00	1·95	2·60	1·90	1·45	1·45	4·10	3·30	0·60	0·50	1·85	25 80
Abernethy,	,,	2·71	4·12	2·13	3·16	1·28	1·95	1·64	5·00	3·25	1·00	0·33	2·95	29·52
Mountquhanie,	Fife,	1·70	5·80	1·80	2·30	1·80	0·40	1·20	5·20	2·80	0·60	0·60	2·20	26·40
Tayport Low Light.,	,,	1·91	4·07	1·61	1·59	2·17	0·57	1·36	4·55	2·27	0·58	0·55	1·55	22·78
Balcarres,	,,	2·30	5·12	1·98	1·92	3·03	1·25	2·01	5·80	1·67	0·89	1·04	2·50	29·51
Lothrie Reservoir,	,,	1·58	4·19	2·14	2·80	3·57	1·86	1·73	5·24	3·45	1·09	0·96	3·01	31·62
Craigluscar,	,,	2·20	3·40	1·20	3·40	3·90	1·30	1·80	5·50	2·80	1·30	1·00	6·00	33·80
Keavil,	,,	1·66	3·33	1·19	2·65	2·54	1·23	1·59	3·96	1·55	1·09	0·87	2·94	24·60
Outh,	,,	1·82	2·81	2·09	2·92	3·19	1·02	2·26	4·29	1·81	1·41	1·16	2·33	27·11
Chatto Reservoir,	,,	1·97	4·05	1·31	2·01	2·58	1·29	1·44	5·64	2·63	1·02	0·71	1·81	26·46
Dollar,	Clackmannan,	2·93	3·79	1·57	5·02	3·09	1·06	2·36	5·61	3·57	1·54	1·67	5·55	37·76
Alloa,	,,	2·66	2 87	1·40	3·25	2·52	1·40	1·60	5·04	2·01	1·41	0·93	3·84	28·93
Loch Leven Sluices.	Kinross,	2·71	2·92	2·13	4·28	3·25	1·77	2·02	5·69	2·23	1·85	1·00	2·03	31·88
Blairingone,	,,	2·84	3·44	1·88	4·16	3·31	1·56	2·28	5·48	3·43	1·75	1·32	4·49	35·94
Gelly Bank,	,,	2·37	3·25	1·77	3·52	2·49	1·49	1·68	5·04	2·85	1·52	0·87	3·31	30·16
Cleish Castle,	,,	...	...	...	...	...	...	...	...	...	...	...	...	...
Kerse, Gauge No. I.,	Stirling,	3·10	2·89	1·81	4·09	2·77	1·27	1·67	4·11	2·10	1·24	1·40	3·80	30·25
,, ,, No. II.,	,,	3·00	2·80	1·80	4·00	2·70	1·20	1·70	4·10	2·00	1·20	1·50	3·70	29·70
Polmaise,	,,	3·42	3·03	1·90	3·55	2·92	1·33	2·85	3·70	3·15	1·55	2·15	3·25	32·80
Stirling Waterw'rks,	,,	4·54	3·38	2·62	4·91	3·87	1·95	2·70	5·29	4·28	2·11	1·52	5·07	42·24
Mugdock Reservoir,	,,	3·10	3·20	1·75	4·00	3·30	1·75	3·30	4·35	3·70	1·80	2·35	4·15	36·75
Currymire,	,,	4·22	3·62	2·35	5·52	4·54	2·00	2·60	5·25	3·84	2·24	2·71	5·58	44·47
Falkirk, Cauldhame,	,,	3·11	2·80	1·96	3·98	3·14	1·43	2·46	4·16	2·62	1·31	1·62	3·99	32·58
,, Burgh B'gs,	,,	2·55	3·17	1·91	3·83	2·57	1·54	2·41	3·82	1·80	1·34	1·43	3·58	29·95
,, Hospital,	,,	3·10	3·40	2·16	4·88	3·16	1·89	3·61	4·53	2·33	1·57	1·82	4·23	36·68
Arrochar,	Dumbarton	6·91	7·09	2·94	6·71	5·17	4·26	4·37	5·85	6·03	6·11	4·69	9·17	69·30
Roseneath, Achnashie	,,	...	...	...	...	4·15	3·70	3·75	5·35	6·40	4·10	4·80	7·40	...
Glenborrodale	Argyll,	8·54	5·01	4·08	8·73	4·23	3·82	3·33	5·57	5·12	5·21	7·56	5·08	66·28
Quinish,	,,	7·13	5·47	3·95	6·17	3·84	3·84	2·87	5·84	4·61	5·30	4·85	4·58	57·95
Eriska,	,,	6·26	6·84	3·31	5·85	5·99	3·98	3·56	6·68	6·68	4·97	8·84	5·85	68·81
Laudale,	,,	10·58	7·67	7·00	11·21	5·88	5·01	4·61	7·18	8·43	7·43	6·96	8·61	90·57
Stonefield,	,,	9·12	6·80	3·96	9·94	4·57	2·80	3·54	5·73	6·60	5·45	7·88	6·67	73·06
Ardsheal, Ballachulish,	,,	11 47	7·64	5·89	11·66	6·75	4·80	5·31	8·12	8·82	6·45	6·28	9·98	93·12
Drimnin,	,,	8·67	5·95	3·32	6·61	3·92	4·44	2·85	6·68	5·28	4·93	5·58	5·89	64·12
Glenstriven,	,,	...	...	...	...	...	...	4·92	6·85	7·99	5·37	7·35	7·62	...
Inveraray, Newton,	,,	6·69	6·28	3·77	9·69	4·07	3·35	4·11	7·41	6·25	5·69	5·42	7·92	70·65
Ardrishaig Canal Of.,	,,	8·14	5·37	4·47	7·20	4·48	3·99	3·86	4·71	6·69	5·06	7·62	6·96	68·55
Campbeltown, The Rectory,	,,	4·91	4·60	2·91	3·84	1·65	1·67	3·14	5·13	6·03	2·86	5·63	5·11	47·48
,, Witchburn,	,,	4·85	3·64	2·41	3·62	2·27	1·84	3·09	4·97	5·33	2·84	4·82	4·66	43·94
Tighnabruaich,	,,	7·84	5·44	3·91	6·67	4·34	2·85	4·08	5·03	7·26	3·45	5·81	6·16	62·84
Ardbeg,	,,	4·60	2·71	2·19	5·06	3·40	0·55	3·14	4·46	2·75	3·99	5·72	3·79	42·36
Islay, Eallabus,	,,	5·82	4·07	3·08	5·29	2·97	1·64	3·77	5·41	4·90	4·45	6·13	4·20	51·73

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1904—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Waulk Glen Res.,	Renfrew,	5·80	3·30	2·60	6·00	2·60	1·85	2·45	4·35	5·20	2·60	2·75	4·65	44·15
Ryat Linn Reservoir,	,,	5·95	3·40	2·70	6·15	2·75	1·95	2·55	4·45	5·30	2·70	2·85	4·80	45·55
Middleton,	,,	6·40	3·75	2·95	6·90	2·95	1·90	3·35	4·90	6·50	3·40	3·70	5·55	52·25
Black Loch,	,,	5·10	3·00	2·60	4·10	3·50	3·20	4·10	7·60	7·60	3·30	3·40	5·60	53·10
Castle Semple,	,,	4·49	3·31	1·96	4·95	2·66	2·13	2·43	5·20	4·26	2·02	3·26	4·53	41·20
Kilmalcolm, St. Oswald's,	,,	5·32	3·70	2·58	4·76	2·16	2·85	2·24	3·74	4·90	2·25	2·70	3·96	40·66
,, Wat'w'ks,	,,	6·82	6·92	3·60	9·80	3·19	3·94	3·88	6·62	8·64	5·25	5·20	6·85	70·71
Greenock Wat'w'ks.—														
Prospect Hill,	,,	7·10	5·95	3·53	7·49	3·74	3·22	3·04	5·85	6·36	3·50	4·09	6·11	59·98
New Yetts Dam,	,,	7·91	6·89	3·69	8·06	3·65	3·42	3·80	6·81	7·75	4·81	4·52	6·89	68·20
Hole Glen,	,,	6·33	5·86	3·29	7·12	3·58	2·95	3·60	6·57	6·48	3·57	3·98	6·13	59·41
Spango Burn,	,,	7·10	5·60	3·50	6·60	3·90	3·10	2·80	6·40	6·70	5·10	4·60	7·40	62·80
Shielhill,	,,	6·20	6·30	3·70	6·70	4·20	3·10	2·70	7·00	6·60	5·00	5·20	7·60	64·30
Comp'nsat'n Res.,	,,	6·86	6·36	4·01	7·77	4·28	3·41	3·81	6·68	7·05	4·80	5·01	5·66	65·70
Loch Thom,	,,	7·96	6·20	4·09	7·60	4·10	3·44	3·59	6·46	7·04	4·34	5·06	5·91	65·79
Kelly Dam,	,,	7·20	5·90	3·10	5·60	3·60	2·60	4·00	6·60	8·10	4·50	6·80	6·60	64·60
Knockencorsan,	,,	5·90	5·80	3·90	5·20	3·50	3·10	4·00	6·00	7·20	4·00	6·00	4·40	59·00
Largs Road,	,,	4·70	5·45	3·00	5·12	3·40	3·30	4·35	4·90	6·60	3·90	5·70	3·00	53·42
Creuch Hill,	,,	6·20	5·00	2·80	4·60	3·00	4·40	3·80	6·40	6·30	5·30	4·30	3·90	56·00
Duchall Moor,	,,	7·90	6·30	4·40	6·90	3·60	5·60	4·40	7·40	9·10	4·50	5·10	6·10	71·30
Green Water,	,,	7·20	6·50	4·40	7·20	3·40	4·00	3·90	6·70	7·70	4·60	4·00	6·40	66·00
Gryfe Reservoir,	,,	6·90	5·70	3·60	7·50	3·40	3·70	2·90	6·20	6·80	3·90	4·30	5·80	60·70
Mansfield,	,,	6·46	5·50	3·47	7·19	3·41	3·67	2·87	6·11	6·45	3·88	4·28	5·61	58·85
Darndaff Moor,	,,	6·50	6·20	4·10	6·70	3·30	4·00	2·90	6·80	6·70	4·00	5·00	5·50	61·70
Paisley W'terw'ks—														
Stanely,	,,	3·95	2·18	1·77	3·85	2·32	1·82	1·48	2·82	4·87	2·25	2·57	4·87	33·25
Back Thornleymuir,	,,	4·68	3·28	2·89	4·88	3·36	1·91	2·98	5·52	6·68	2·92	3·09	4·56	46·05
Muirhead,	,,	4·59	3·57	2·91	6·01	3·40	2·22	3·43	5·69	5·85	3·53	3·54	5·29	50·03
Springside,	,,	5·33	4·13	2·97	6·82	3·66	2·51	3·75	6·51	6·66	3·78	4·08	5·89	56·09
Paisley, Crookston House,	,,	4·35	2·20	1·50	3·90	2·78	1·45	1·65	3·70	3·70	1·50	1·80	3·75	32·28
Auchendores Res.,	,,	5·30	4·58	1·90	6·00	3·15	2·78	2·21	4·55	4·85	3·30	2·60	4·70	45·87
Douglieshill Res.,	,,	5·48	4·71	2·28	7·10	3·48	2·95	2·05	4·85	4·62	3·48	2·90	5·05	48·90
Loch Finlas,	Ayr,	5·95	5·24	3·12	6·07	2·53	2·35	3·06	7·42	5·21	3·34	4·51	3·94	52·74
Camphill,	,,	6·05	5·55	3·20	5·55	4·20	3·30	4·25	6·45	7·55	3·75	4·03	5·50	59·38
Dalry, Blair,	,,	5·14	4·57	2·08	6·08	3·58	2·44	4·08	6·00	5·29	3·58	4·13	3·85	50·77
Pinmore,	,,	6·01	4·07	3·19	4·02	3·25	3·17	4·96	6·41	4·71	3·14	6·67	4·56	54·16
Saltcoats,	,,	4·19	3·24	1·91	3·95	2·85	1·21	2·86	4·92	3·72	2·28	3·39	2·74	36·76
North Craig,	,,	4·50	3·00	2·00	5·40	3·00	1·80	3·40	5·30	5·00	2·00	4·00	3·00	42·40
Ayr, Doonside,	,,	3·85	2·69	2·24	4·29	3·19	1·10	2·82	5·68	3·27	3·05	4·38	3·48	39·99
,, Doonholm,	,,	3·94	2·85	2·44	4·31	3·28	1·20	2·59	5·81	3·39	2·48	4·38	3·10	39·27
Glendrishaig,	,,	3·42	2·35	2·15	3·27	2·32	1·02	2·15	4·45	3·22	1·90	3·37	2·48	32·10
Maybole, Knockdon,	,,	3·29	2·90	2·11	3·54	2·70	1·08	1·77	4·90	2·05	1·67	3·74	3·04	32·79
,, Culzean,	,,	3·40	2·95	2·00	3·35	1·80	1·30	2·90	5·20	3·40	2·10	3·90	2·65	34·95
Colmonell,	,,	4·90	3·80	2·50	2·71	2·28	1·92	3·20	5·81	4·49	2·59	5·80	3·72	43·22
Glasgow C'p'ation—														
Queen's Park,	Lanark,	3·93	2·28	1·43	4·64	3·36	1·54	3·80	3·49	2·73	2·12	2·07	3·48	34·87
Maxwell Park,	,,	3·90	2·23	1·04	4·09	3·17	1·58	3·26	3·17	2·94	1·92	1·72	3·50	32·52
Kelvingrove,	,,	3·53	2·36	1·40	4·22	3·19	1·77	3·78	3·60	3·21	1·78	2·01	3·39	34·19
Springburn Park,	,,	3·31	1·87	1·34	3·97	3·10	1·54	2·78	3·87	2·09	1·52	1·70	2·92	29·46
Alexandra Park,	,,	3·57	2·35	1·55	4·36	3·64	1·54	2·78	3·24	2·56	1·80	2·27	3·59	33·25
Glasgow Green,	,,	3·80	2·04	1·39	4·07	3·35	1·40	3·31	3·23	2·45	1·66	2·09	3·45	32·24
Bellahouston Pk.,	,,	3·53	1·96	1·44	3·81	2·88	1·67	2·59	3·41	3·52	1·76	1·88	3·06	31·51
Tollcross Park,	,,	4·10	2·14	1·57	4·72	3·71	1·79	2·64	3·76	2·68	1·68	2·21	3·86	34·86
Ruchill Park,	,,	3·56	2·89	1·46	4·54	3·39	1·89	3·68	4·06	3·17	1·87	2·20	3·19	35·40
Botanic Gardens,	,,	3·48	2·03	1·07	3·56	3·10	1·16	3·76	3·69	3·15	1·31	1·68	2·55	30·54
George Square,	,,	3·29	2·14	1·34	3·75	3·54	1·60	2·81	3·19	2·33	1·75	2·17	3·26	31·17
Hamilton W'terw'ks	,,	4·30	2·30	1·70	5·00	2·70	1·40	2·15	3·80	2·60	1·60	2·00	3·65	33·20
Bothwell Castle,	,,	1·38	1·69	1·13	2·56	2·00	1·24	1·80	3·14	1·79	1·40	2·12	3·32	23·57
Mauldslie Castle,	,,	3·78	2·15	1·11	4·55	2·81	1·87	2·12	4·29	1·28	1·64	1·98	3·08	30·06
Cambus-Wallace,	,,	1·80	1·55	1·50	2·89	2·15	1·70	2·30	3·60	1·06	1·90	1·82	1·70	23·97
Edmonston,	,,	2·40	2·14	1·64	3·30	3·19	1·65	1·77	3·29	1·33	...	...	...	...
Lanark Rhyber L'ge,	,,	3·00	1·30	1·40	3·40	2·50	1·70	2·30	3·40	2·40	1·40	1·70	2·00	26·50
Cleghorn,	,,	3·59	2·88	1·68	3·91	3·16	2·05	2·81	4·06	1·87	2·27	2·41	3·57	33·66
Lamington,	,,	1·84	2·57	2·32	3·72	2·43	2·35	1·95	3·53	2·07	0·81	2·34	1·87	27·80
Hillend Reservoir,	,,	3·52	2·26	1·44	5·13	3·09	1·32	3·15	3·62	2·40	2·09	1·96	4·61	34·59
Roughrigg Res.,	,,	3·55	2·19	1·50	4·42	2·97	1·48	3·02	4·11	3·24	1·58	2·20	3·42	33·63
Polkemmet,	Linlithgow,	4·50	2·91	1·90	5·05	3·30	1·79	2·76	3·90	2·62	1·83	2·69	4·91	38·16
Boghead,	,,	3·77	3·25	2·01	4·97	3·57	1·87	2·75	4·12	2·22	1·47	2·21	4·33	36·54
Bo'ness, Grange,	,,	2·35	2·48	1·19	2·95	2·25	1·49	1·80	4·33	1·84	0·84	0·88	3·24	25·64
Carriber Reservoir,	,,	3·22	2·66	1·63	3·25	3·62	1·35	2·90	3·72	2·24	1·15	1·41	4·09	31·24
Uphall,	,,	2·98	2·50	1·61	3·75	3·35	1·60	2·15	3·98	1·72	1·11	1·37	3·95	30·02

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1904—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Addiewell,	Edinburgh,	3·51	3·47	1·80	4·55	3·22	2·13	2·52	3·88	1·47	1·89	2·22	4·15	34·81
Edin. Waterworks—														
Portmore,	,,	2·37	3·05	1·67	2·82	3·87	2·54	2·16	4·90	1·18	1·14	2·22	2·77	30·69
Bowbate,	,,	2·77	5 35	2·90	4·10	5·30	3·60	2·95	6·27	2·80	1·72	2·65	4·10	44·51
Gladhouse,	,,	2·90	3·25	1·82	2·53	3·55	2·95	1·85	5·06	2·12	1·20	2·08	2·98	32·29
Rosebery,	,,	2·69	3·69	1·69	2·28	3·25	2·94	1·85	5·26	1·70	0·90	1·74	2·09	30·08
Glencorse,	,,	3·35	3·69	1·79	3·21	4·74	3·28	2·34	5·71	1·73	1·66	1·77	3·79	37·06
Loganlea,	,,	3·56	3·49	1·63	3·34	4·58	3·27	2·27	5·10	1·71	1·69	1·79	4·45	36·88
Harehill,	,,	3·56	3·55	1·75	3·60	4·65	3·30	2·60	5·45	2·10	2·00	1·65	4·50	38·71
Harbour Hill,	,,	6·02	4·10	1·60	3·70	4·62	3·30	2·50	5·80	2·80	1·30	2·00	6·70	44·44
Clubbiedean,	,,	2·52	2·78	1·34	2·19	3·80	2·73	1·80	4·64	2 04	0·75	1·20	2·51	28·30
Harlaw,	,,	3·40	2·84	1·34	2·75	3·96	2·88	1·98	4·89	2·14	0·93	1·63	3 26	32·00
Harperrig,	,,	3·35	3·08	1·78	4·08	3·83	2·93	2·62	4·08	1·64	1 79	1·60	3·81	34·59
Crosswood,	,,	3·75	3·20	2·10	4·31	4·38	2·62	3·11	4·25	2 27	1·43	2·28	4·14	37·84
Alnwick Hill,	,,	2·81	3·23	1·18	2·08	2·98	2·81	1·33	4·87	1·39	0 82	1·11	2·35	26·96
Swanston,	,,	2·30	2·28	1·10	1·30	3·55	2·75	1·95	5·03	1·63	1·19	1·25	3·35	27·68
Edgelaw,	,,	2·69	3·70	1·69	2·26	3·25	2·93	1·85	5·24	1·70	1·00	1·73	2·08	30·12
Davidson's Mains, Broomfield,	,,	2·35	2·47	1·50	2·25	3·08	1·83	1·34	4·62	1·45	0·91	0·83	2·65	25·28
Leith, M.C.,	,,	2·10	2·24	1·46	1·66	3 05	1·86	1·23	4·38	1·68	0·60	0·79	2·37	23·42
Edinburgh—														
Charlotte Square,	,,	2·49	2·50	1·20	1·95	3 70	1·50	...	...	1·80	0·90	0·85	2·45	...
Streatham House,	,,	2 20	3·00	1·40	2·80	3 10	2·70	1·30	5 00	1·70	1·00	1·20	2·50	27·70
Stow, Burnhouse,	,,	3·21	3·34	1·70	3·00	2·80	2·15	2·65	4·60	1 70	0·90	1·57	2·73	30·35
Aberlady,	Haddington,	1·53	2·76	1·44	1·28	3·05	2·38	1·18	4·81	1·65	0·85	0·89	2·16	23·98
No. Berwick Res.,	,,	2·10	2·52	1·42	1·25	3·20	2·15	1·40	4·65	1·50	0·80	1·18	2·00	24·17
Donolly Reservoir,	,,	2·50	4·45	2·00	2·10	3·53	2·77	2·10	3 13	2·20	1·51	2·50	2·56	31·35
Whittingehame,	,,	2·67	3·61	1·61	1·14	3·38	2·70	1·54	3·35	1·24	0·76	1·40	2·81	26·21
The Hangingshaw,	Selkirk,	2·50	3·13	2·12	2·48	2·77	2·60	2·85	2·18	1·81	0·99	2·08	3·06	27·92
Talla Waterworks, Meggat Head,	,,	7·20	4·25	4·80	6·12	3 50	4·30	4·73	6·30	4·10	2·45	2·50	5·13	55·38
North Esk Res.,	Peebles,	3 25	3·85	3·05	4·30	4·20	2·80	2·80	4·50	2·00	1·40	2·60	3·60	38·35
West Linton,	,,	3·78	3·49	2·00	4·28	3·83	2·67	2·92	4·33	1·77	1·44	2·18	4·36	37·05
Swinton Bank,	,,	2·32	2·67	1·68	2·86	2·57	2·86	2·88	3·77	1·38	0·92	2·40	2·50	28·26
Talla Waterworks—														
Loch Craig Head, No. 2,	,,	7·46	4·69	4·91	6·78	3·45	4·82	5·63	8·08	5·30	3·53	2·53	5·76	62·94
Ravenscraig, No. 3,	,,	6·87	4·00	4·16	5·71	4·90	6·43	7·05	8·02	6·64	4·68	2·71	6·70	67·87
Gameshope Loch, No. 4,	,,	6·38	4·11	4·31	6·00	5·44	6·35	6·12	7·00	6·82	3·71	2·45	5·50	64·19
Gameshope Farm, No. 5A,	,,	8·84	4·76	5·33	7·72	4·82	6·10	5·91	8·53	6·36	3·63	3·08	6·37	71·45
,, No. 5,	,,	8·84	4·76	5·34	6·50	3·84	5·84	5·18	7·48	5·17	2·79	2·70	5·22	63·66
Talla Linns Foot, No. 6A,	,,	6·83	4·50	5·08	6·00	4·13	4·68	4·73	6·42	4·20	3·16	2·63	5·28	57·64
,, No. 6,	,,	6·83	4·50	4·89	5·84	3·95	4·55	4·64	6·26	4·15	2·96	2·55	5·16	56·28
Quarter Hill, No. 7A,	,,	5·16	3·10	2·38	5·44	3·83	3·61	3·77	4·73	3·03	2·50	3·03	4·44	45·02
,, No. 7,	,,	5·00	3·43	3·17	5·02	3·41	3·47	3·43	4·70	3·03	2·43	2·23	3·72	43·04
The Hirsel,	Berwick,	1 98	2·81	1·77	0 91	2·39	2·25	2·12	2·75	0·95	0·86	2·39	2·26	22·94
Cowdenknowes,	,,	2·12	2·90	2·29	1·79	2·50	2·82	2·92	3·15	1·12	0·87	2·00	2·11	26·59
Elliston,	Roxburgh,	2·32	2·47	2·19	1·66	2·57	2·36	2·48	2 57	0·75	0·73	1·60	1·75	23·45
Wooplaw,	,,	2·20	2·62	1·97	2·15	2·37	2·33	1·38	3·52	0·83	0·95	1·69	2·48	24·49
Lilliesleaf,	,,	2·96	2·97	2·34	2 36	2·98	2·73	2·65	2·85	0·96	0·96	1·86	2·13	27·75
Springwood Park,	,,	1·49	1·64	1·66	1·13	1·90	1·58	1·91	2·40	0·46	0·92	1 67	1·68	18·44
Jedburgh, Ancrum Bridge,	,,	2·26	2·35	2·01	2·08	2·99	2·03	1·65	2·82	0·60	0·86	2·08	1·55	23·28
Branxholm,	,,	2·49	2·42	2·41	2·73	2·12	2·68	2·22	2·69	0·80	1·29	2·13	1·99	25·97
Ewes,	Dumfries,	5·59	3·34	5·33	5·81	3·97	2·92	5·52	4 36	3·11	2·74	2·25	4·23	49·17
Drumpark,	,,	4·86	3·80	4·50	4·50	3·12	2·62	4·23	5·75	3·93	3·10	3·86	5·20	49·47
Langholm, Burnfoot,	,,	5·59	3·34	5·33	5·81	3·97	2·92	5·52	4·36	3·11	2·74	2·25	4·23	49·17
,, Drove Road,	,,	5·13	4·09	5·98	5·74	3·76	3·84	5·34	5·63	2·92	2·57	3·83	4·55	53·38
Byreburnfoot,	,,	3·88	3·12	5·00	3 75	2·88	1·75	3·00	3·50	2·50	2·00	2 87	3·50	37·75
Ericstane,	,,	5·15	4·37	4·53	5·53	3·30	3·99	3·63	5·03	3·47	2·71	2·08	5·05	48·84
Moffat,	,,	4·67	4·47	4·34	5·47	2·86	3·80	3·92	4·79	3·75	2·91	2·63	4·68	48·29
Maxwelton House,	,,	4·66	4·20	3·46	4·81	2·35	2·39	3·77	5·74	3·68	2·24	3·52	4·87	45·69
Glencrosh,	,,	5·78	4·33	4·11	5·62	3·30	2·53	3·15	6·73	4·32	2·70	4·14	4·89	51 60
Dalbeattie, Richorn,	Kirkcudbright,	3·67	2·84	3·59	2·99	3·12	2·09	3·39	5·62	3·81	3·84	3·22	3·64	41·82
,, Kirkennan,	,,	4·08	3·09	3·72	3·65	3·21	1·92	3·68	6·01	3·99	3·56	3·80	4·06	44·77
Old Garroch,	,,	6·43	5·82	4·18	6·02	3·82	2·71	3·35	7·38	5·17	3·70	6·46	5·85	60·89
Glendarroch,	,,	6·27	4·64	3·57	4·68	2·45	2·14	3·13	6·94	4·77	2·62	5·19	5·17	51·57
Auchencairn,	,,	3·11	2·94	3·52	3·26	3·20	1·69	3·10	6·14	3·99	3·02	4·05	3·60	41·62
Ardwell House,	Wigtown,	2·97	3·84	2·50	1·69	2·37	2·19	4·08	4·76	3·87	2·13	3·65	2·80	36·85
Galloway House,	,,	3·19	4·31	2·80	2·39	2·53	1·48	2·79	4·45	3·58	2·13	3·44	3·31	36·40
Whithorn, Outroach,	,,	2·96	4·47	2·48	2·06	2·81	1·23	2·93	4·87	2·35	1·96	3·46	2·60	34·18
Douglas,	Isle of Man,	3·10	4·74	3·07	2·20	3·17	1·65	2·81	4·21	3·74	2·16	3·37	3·25	36·97

4. RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

JANUARY–MARCH 1904.

	Height.	Mean Temperature.	Barometer. Mean at 32°.	Direction of Wind. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm or Variable.	Gales and Storms.	Rain. Days.	Rain. Amount.	Fog.
JANUARY.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	39·2	29·498	2	0	1	6	7	8	6	1	0	25	13	2·44	3
Isle of May	240	40·1	29·472	1	1	1	1	5	4	17	1	0	0	7	0·21	13
Bell Rock	93	40·9	29·630	0	1	1	3	6	6	11	2	1	0	4	...	8
Kinnairdhead	120	39·6	29·529	3	0	0	0	8	10	8	2	0	52	18	2·04	7
Tarbetness	175	39·0	29·427	2	0	0	3	4	11	8	3	0	22	10	0·38	3
Pentland Skerries	170	41·0	29·419	1	0	0	1	12	10	5	2	0	108	14	1·62	0
Hoy Sound, Low	55	41·0	29·534	1	0	0	7	8	6	5	4	0	96	16	3·65	0
Start Point	80	41·5	29·499	1	0	0	4	10	8	6	2	0	91	14	2·65	0
Bressay Sound	105	42·3	29·444	1	1	0	4	8	9	3	4	1	86	23	6·50	0
Holbornhead	75	40·3	29·510	0	0	6	12	7	2	2	2	0	23	17	2·57	0
Cape Wrath	400	39·9	29·117	1	1	3	2	5	9	6	4	0	29	20	2·17	21
Butt of Lewis	170	40·9	29·377	1	1	0	5	9	8	4	3	0	20	22	5·36	20
Barrahead	683	40·5	28·881	1	0	0	2	11	7	8	2	0	14	19	2·87	37
Skerryvore	150	42·8	29·489	2	0	1	2	8	7	8	3	0	135	17	...	43
Rona	222	41·4	29·380	1	1	1	2	15	5	3	3	0	45	20	2·11	0
Ardnamurchan	180	42·3	29·459	2	0	1	5	9	6	5	3	0	34	27	4·75	44
Rhinns of Islay	150	43·0	29·540	2	0	1	3	6	8	7	4	0	68	19	4·29	41
Mull of Kintyre	297	41·5	29·401	1	0	1	7	9	5	4	4	0	60	16	1·89	36
Turnberry	96	42·0	29·646	1	1	2	3	11	7	4	2	0	109	20	3·70	23
Corsewall	112	41·9	29·629	1	0	2	5	6	9	4	4	0	82	20	3·67	4
Mull of Galloway	325	41·3	29·408	1	1	1	3	7	7	7	4	0	49	14	1·77	17
FEBRUARY.																
St. Abb's Head	224	36·7	29·236	3	3	3	5	5	4	3	3	0	7	14	1·81	17
Isle of May	240	37·3	29·219	2	2	4	2	8	2	8	1	0	0	17	3·57	30
Bell Rock	93	38·1	29·386	2	2	3	5	5	6	5	1	0	0	12	...	0
Kinnairdhead	120	37·0	29·354	2	1	2	7	10	3	2	2	0	36	21	2·88	13
Tarbetness	175	36·6	29·253	2	0	3	7	5	5	4	3	0	15	20	1·78	0
Pentland Skerries	170	38·3	29·272	3	2	5	6	8	2	2	0	1	9	20	3·16	0
Hoy Sound, Low	55	37·6	29·396	2	5	4	13	1	2	2	0	0	21	18	4·03	0
Start Point	80	37·9	29·374	2	4	6	5	7	2	2	1	0	102	18	3·83	0
Bressay Sound	105	38·1	29·348	1	4	5	6	8	2	1	2	0	50	21	3·70	0
Holbornhead	75	37·5	29·363	0	2	8	9	4	3	1	2	0	5	21	7·19	0
Cape Wrath	400	36·9	28·986	1	2	9	5	2	5	1	4	0	80	17	1·96	0
Butt of Lewis	170	38·6	29·229	3	2	7	5	6	2	2	2	0	0	14	3·58	0
Barrahead	683	38·2	28·687	3	2	4	4	10	3	2	1	0	0	19	2·99	78
Skerryvore	150	41·2	29·283	3	2	2	5	9	4	3	1	0	4	15	...	0
Rona	222	38·9	29·191	3	1	9	4	8	1	2	1	0	0	16	2·37	0
Ardnamurchan	180	39·0	29·240	1	5	1	11	3	3	2	3	0	0	19	4·02	0
Rhinns of Islay	150	40·6	29·288	3	3	4	4	7	3	3	1	1	34	18	3·84	0
Mull of Kintyre	297	39·1	29·242	2	3	4	7	6	2	1	4	0	18	13	2·36	0
Turnberry	96	38·8	29·384	1	2	6	3	8	4	3	1	1	30	12	1·80	0
Corsewall	112	39·2	29·365	1	3	2	10	3	4	3	3	0	6	12	3·12	10
Mull of Galloway	325	38·5	29·182	2	1	4	3	5	5	4	4	1	21	14	3·08	21
MARCH.																
St. Abb's Head	224	39·1	29·719	2	6	4	2	3	7	3	3	1	8	10	1·45	15
Isle of May	240	38·6	29·693	1	2	5	4	4	8	3	3	1	0	17	0·86	40
Bell Rock	93	39·2	29·856	1	3	6	8	3	4	5	1	0	0	7	...	0
Kinnairdhead	120	38·8	29·802	2	0	1	5	8	8	4	3	0	0	15	1·41	12
Tarbetness	175	38·5	29·725	2	0	2	4	8	7	3	4	1	0	8	0·30	0
Pentland Skerries	170	40·0	29·721	3	1	1	6	11	2	4	2	1	0	14	1·03	0
Hoy Sound, Low	55	39·8	29·836	2	0	0	13	5	3	5	3	0	0	12	2·40	0
Start Point	80	39·7	29·814	1	1	3	6	11	3	3	3	0	64	12	1·77	0
Bressay Sound	105	39·7	29·788	2	1	2	6	12	3	3	2	0	51	15	3·60	0
Holbornhead	75	39·8	29·814	0	0	2	12	5	5	3	3	1	0	14	0·95	0
Cape Wrath	400	38·9	29·450	1	1	2	4	4	13	4	2	0	10	11	0·51	0
Butt of Lewis	170	39·7	29·685	2	2	1	4	11	7	2	2	0	4	13	1·42	0
Barrahead	683	39·1	29·164	3	1	3	1	13	6	3	1	0	0	10	1·08	80
Skerryvore	150	41·1	29·769	1	4	2	5	8	7	2	2	0	0	8	...	6
Rona	222	40·3	29·665	2	1	4	5	14	3	2	0	0	0	12	1·00	0
Ardnamurchan	180	41·9	29·781	2	5	2	6	11	1	3	1	0	0	15	1·56	0
Rhinns of Islay	150	40·8	29·775	2	2	5	5	8	3	3	2	1	0	14	2·13	0
Mull of Kintyre	297	39·9	29·619	3	4	3	8	6	2	1	3	1	0	10	1·90	2
Turnberry	96	39·7	29·863	3	4	4	4	9	3	2	1	1	0	14	20·0	3
Corsewall	112	39·6	29·851	3	5	4	9	4	3	2	1	0	0	15	2·53	5
Mull of Galloway	325	39·3	29·613	2	3	7	3	4		8	2	1	0	11	1·21	29

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES

APRIL–JUNE 1904.

	HEIGHT.	Mean Temperature.	BAROMETER.	DIRECTION OF WIND.								Calm or Variable.	Gales and Storms.	RAIN.		Fog.
			Mean at 32°.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
APRIL.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	45·6	29·500	2	0	0	4	3	8	9	4	0	88	9	1·31	11
Isle of May	240	44·3	29·466	1	0	1	2	3	1	19	3	0	10	9	0·40	13
Bell Rock	93	44·4	29·620	2	0	0	3	5	3	16	1	0	0	8	...	14
Kinnairdhead	120	44·1	29·531	1	0	0	1	8	6	4	10	0	44	18	2·35	17
Tarbetness	175	43·5	29·437	2	1	0	1	4	7	5	10	0	36	20	1·88	0
Pentland Skerries	170	43·4	29·423	1	1	0	5	6	5	7	5	0	28	18	3·68	10
Hoy Sound, Low	55	44·4	29·520	1	1	0	7	4	3	11	3	0	128	20	5·80	0
Start Point	80	43·2	29·495	1	1	3	4	4	6	8	3	0	47	20	3·49	12
Bressay Sound	105	43·0	29·438	2	1	0	6	5	8	5	2	1	24	23	6·10	10
Holbornhead	75	44·1	29·512	1	0	2	6	5	5	9	1	1	6	20	7·03	6
Cape Wrath	400	41·9	29·179	1	0	3	1	3	7	8	7	0	277	22	3·90	14
Butt of Lewis	170	43·1	29·409	1	0	2	3	4	9	7	4	0	119	23	5·43	7
Barrahead	683	42·4	28·979	1	0	0	3	5	8	11	2	0	5	20	3·48	82
Skerryvore	150	43·9	29·576	1	0	0	3	4	8	10	4	0	200	16	...	3
Rona	222	44·4	29·412	0	1	1	2	8	4	9	5	0	39	23	4·44	4
Ardnamurchan	180	44·9	29·515	1	0	1	3	7	4	8	6	0	175	22	2·17	4
Rhinns of Islay	150	44·9	29·606	2	1	1	2	5	3	6	10	0	58	22	3·49	6
Mull of Kintyre	297	44·7	29·466	1	1	1	6	5	3	7	6	0	15	17	2·49	0
Turnberry	96	45·8	29·688	3	0	1	2	6	10	7	1	0	90	21	2·15	0
Corsewall	112	45·0	29·684	1	0	0	5	5	7	8	4	0	32	28	1·90	0
Mull of Galloway	325	44·5	29·478	3	0	0	1	6	6	10	3	1	16	12	0·75	9
MAY.																
St. Abb's Head	224	48·0	29·633	2	7	1	7	4	4	4	2	0	25	9	1·97	27
Isle of May	240	47·4	29·610	0	2	8	2	6	1	9	1	2	0	14	1·97	41
Bell Rock	93	46·8	29·786	1	5	5	2	7	3	6	1	1	0	8	...	49
Kinnairdhead	120	46·7	29·718	3	4	2	3	12	2	1	4	0	15	11	1·63	28
Tarbetness	175	46·7	29·652	3	3	5	7	1	6	0	5	1	0	16	0·86	2
Pentland Skerries	170	46·8	29·656	3	4	2	9	5	1	4	2	1	0	13	1·54	12
Hoy Sound, Low	55	47·1	29·782	2	3	1	12	2	3	4	4	0	15	10	2·45	19
Start Point	80	45·9	29·758	2	5	6	6	4	2	4	2	0	37	5	0·95	30
Bressay Sound	105	45·5	29·723	2	6	2	6	6	3	3	2	1	0	12	2·90	30
Holbornhead	75	47·7	29·755	1	5	4	8	7	2	3	1	0	8	9	1·43	3
Cape Wrath	400	46·1	29·890	1	5	7	2	2	5	7	2	0	0	17	1·92	0
Butt of Lewis	170	46·0	29·637	1	5	4	7	6	3	4	1	0	0	13	1·82	1
Barrahead	683	45·3	29·071	2	4	2	3	12	3	4	1	0	0	14	1·93	103
Skerryvore	150	47·7	29·691	1	5	1	8	4	5	5	2	0	0	7	...	28
Rona	222	48·9	29·576	2	5	3	2	9	5	3	2	0	0	20	3·58	0
Ardnamurchan	180	48·9	29·659	2	6	1	6	7	3	4	1	1	0	13	1·37	0
Rhinns of Islay	150	48·4	29·700	2	3	3	6	6	2	3	4	2	0	14	1·84	27
Mull of Kintyre	297	47·7	29·556	2	2	5	10	5	0	3	3	1	0	10	1·21	30
Turnberry	96	49·2	29·688	9	3	3	2	5	4	5	0	0	16	15	1·55	14
Corsewall	112	48·4	29·772	5	2	2	6	9	2	2	3	0	0	16	1·93	20
Mull of Galloway	325	48·0	29·540	3	3	3	4	7	6	3	2	0	0	11	1·12	30
JUNE.																
St. Abb's Head	224	52·8	29·764	2	6	2	5	2	3	6	3	1	15	6	1·47	55
Isle of May	240	52·0	29·752	1	3	7	5	2	1	9	2	0	0	8	0·95	79
Bell Rock	93	51·7	29·894	1	6	7	4	2	3	6	1	0	0	4	...	24
Kinnairdhead	120	52·1	29·856	4	6	2	2	6	3	4	3	0	0	13	0·97	22
Tarbetness	175	52·3	29·778	3	2	8	3	3	3	3	5	0	0	11	0·56	18
Pentland Skerries	170	51·1	29·773	2	6	1	6	3	2	7	2	1	12	8	1·25	9
Hoy Sound, Low	55	52·5	29·896	2	4	2	7	2	3	8	1	1	24	8	1·28	11
Start Point	80	50·6	29·868	5	4	3	5	3	2	4	3	1	33	8	0·65	11
Bressay Sound	105	49·2	29·826	4	5	0	7	3	1	6	3	1	18	10	1·90	11
Holbornhead	75	52·3	29·867	1	6	7	3	1	4	6	0	2	15	11	1·12	5
Cape Wrath	400	51·1	29·503	1	1	8	3	1	9	6	1	0	39	12	2·20	45
Butt of Lewis	170	50·8	29·749	2	3	6	4	3	5	7	0	0	11	10	1·38	6
Barrahead	683	51·2	29·224	3	4	4	2	6	6	5	0	0	11	10	1·92	92
Skerryvore	150	53·4	29·811	3	2	3	7	3	4	5	3	0	24	11	...	7
Rona	222	53·8	29·719	6	3	2	2	7	4	3	3	0	18	15	2·69	0
Ardnamurchan	180	54·2	29·778	3	7	1	6	3	4	4	1	1	0	13	2·15	0
Rhinns of Islay	150	53·7	29·833	3	3	4	7	4	2	5	2	0	7	8	1·55	9
Mull of Kintyre	297	54·2	29·693	2	2	2	9	4	1	4	6	0	0	6	1·60	19
Turnberry	96	56·0	29·913	5	4	1	5	5	4	4	2	0	0	10	1·30	5
Corsewall	112	53·9	29·906	2	5	1	5	5	4	4	4	0	7	12	2·07	0
Mull of Galloway	325	54·6	29·672	4	1	5	2	6	4	4	4	0	0	7	0·89	18

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

July–September 1904.

	Height.	Mean Temperature.	Barometer.	Direction of Wind.								Calm or Variable.	Gales and Storms.	Rain.		Fog.
			Mean at 32°.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
JULY.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	58·2	29·744	1	3	3	7	4	4	7	0	2	0	10	0·98	61
Isle of May	240	56·9	29·727	0	2	7	6	3	2	10	1	0	0	9	0·99	64
Bell Rock	93	56·1	29·886	1	5	6	4	4	4	7	0	0	0	6	...	32
Kinnairdhead	120	56·4	29·838	3	2	2	4	9	3	2	6	0	0	6	0·21	6
Tarbetness	175	55·8	29·744	1	1	7	6	3	4	5	1	3	0	6	0·52	43
Pentland Skerries	170	54·1	29·745	1	1	5	7	6	3	4	2	2	0	8	0·97	59
Hoy Sound, Low	55	55·4	29·864	1	2	4	9	2	2	9	1	1	0	8	1·03	42
Start Point	80	53·1	29·847	1	4	7	4	4	5	5	1	0	21	5	0·50	35
Bressay Sound	105	52·5	29·808	0	8	0	2	6	3	8	1	3	0	7	1·70	43
Holbornhead	75	55·5	29·848	1	0	5	7	3	3	7	1	4	0	8	1·06	55
Cape Wrath	400	53·9	29·471	0	1	8	4	3	7	8	0	0	14	15	1·00	73
Butt of Lewis	170	54·5	29·711	3	2	5	4	4	8	5	0	0	45	12	1·85	2
Barrahead	683	54·4	29·190	1	6	2	3	7	6	4	1	1	0	7	0·90	135
Skerryvore	150	55·7	29·779	2	4	1	10	2	6	6	0	0	14	9	...	83
Rona	222	56·9	29·671	4	1	3	1	13	4	3	1	1	0	14	1·52	9
Ardnamurchan	180	56·6	29·742	1	6	2	5	6	6	4	0	1	0	11	0·98	82
Rhinns of Islay	150	56·8	29·798	2	1	5	6	6	4	5	1	1	0	16	3·60	68
Mull of Kintyre	297	57·0	29·662	2	1	5	8	6	1	3	5	0	25	12	1·04	39
Turnberry	96	58·6	29·872	5	3	2	5	7	5	2	1	1	0	12	1·05	2
Corsewall	112	57·9	29·855	3	5	0	8	7	4	2	2	0	0	16	3·09	6
Mull of Galloway	325	58·2	29·636	2	1	5	4	8	7	1	2	1	0	10	1·25	23
AUGUST.																
St. Abb's Head	224	57·7	29·678	2	3	1	3	3	9	6	4	0	0	8	2·54	3
Isle of May	240	56·6	29·655	3	3	3	2	3	2	14	1	0	0	12	0·95	20
Bell Rock	93	56·4	29·812	5	2	2	4	5	4	9	0	0	0	10	...	11
Kinnairdhead	120	55·7	29·764	7	2	2	2	6	5	2	5	0	28	16	2·29	8
Tarbetness	175	55·6	29·673	5	4	1	3	3	4	2	8	1	0	21	1·92	18
Pentland Skerries	170	54·3	29·687	6	3	1	3	7	2	2	6	1	0	12	2·05	22
Hoy Sound, Low	55	55·8	29·806	8	4	1	7	2	2	5	2	0	0	16	2·96	17
Start Point	80	53·6	29·771	5	2	2	5	5	3	2	7	0	0	6	1·87	17
Bressay Sound	105	53·1	29·737	5	4	1	5	4	1	3	5	3	0	11	3·00	65
Holbornhead	75	55·6	29·787	3	3	2	4	4	4	3	7	1	0	17	2·86	24
Cape Wrath	400	54·8	29·427	4	1	3	3	3	8	2	7	0	0	25	5·61	6
Butt of Lewis	170	53·8	29·677	5	2	3	2	6	5	2	5	1	0	20	4·82	1
Barrahead	683	53·3	29·168	8	1	1	1	9	5	4	2	0	0	13	4·15	107
Skerryvore	150	55·9	29·748	3	2	1	2	7	4	6	6	0	0	12	...	2
Rona	222	55·8	29·641	5	3	1	1	11	5	2	3	0	0	24	5·00	7
Ardnamurchan	180	55·7	29·718	4	4	1	1	13	2	3	3	0	0	18	5·16	33
Rhinns of Islay	150	56·2	29·750	5	4	0	8	3	2	4	4	1	7	19	4·21	9
Mull of Kintyre	297	55·8	29·616	1	1	1	7	7	1	4	8	1	16	15	3·15	0
Turnberry	96	57·8	29·829	3	1	1	3	9	2	9	3	0	5	15	3·75	2
Corsewall	112	56·9	29·826	3	1	1	5	7	4	4	6	0	0	14	4·50	18
Mull of Galloway	325	56·9	29·598	3	1	2	1	6	6	5	7	0	0	15	4·00	40
SEPTEMBER.																
St. Abb's Head	224	54·0	29·792	2	8	2	3	3	5	4	2	1	0	5	0·19	13
Isle of May	240	53·1	29·760	2	1	4	7	3	3	8	2	0	0	7	1·16	34
Bell Rock	93	53·8	29·920	1	3	4	2	9	3	7	1	0	0	5	...	17
Kinnairdhead	120	53·3	29·871	3	1	3	5	9	4	1	4	0	0	13	2·59	16
Tarbetness	175	53·4	29·776	1	1	1	10	3	6	4	4	0	21	12	1·29	0
Pentland Skerries	170	53·3	29·791	1	3	1	5	15	1	1	2	1	10	11	2·33	4
Hoy Sound, Low	55	54·2	29·917	2	2	1	14	4	3	2	2	0	0	13	4·80	0
Start Point	80	53·6	29·897	2	1	4	6	8	4	2	3	0	34	8	2·12	2
Bressay	105	52·7	29·875	2	3	2	4	11	5	1	1	1	0	10	2·50	20
Holbornhead	75	53·4	29·892	1	2	3	6	7	4	3	2	2	0	15	3·20	8
Cape Wrath	400	52·9	29·518	0	1	4	7	4	9	3	2	0	30	16	2·78	6
Butt of Lewis	170	53·3	29·741	2	2	6	5	7	4	1	3	0	9	13	3·38	1
Barrahead	683	51·7	29·208	3	1	3	3	10	6	2	2	0	0	12	2·59	65
Skerryvore	150	54·2	29·801	2	2	2	5	9	4	3	3	0	0	10	...	5
Rona	222	54·1	29·709	4	2	3	3	12	4	1	1	0	0	15	3·30	3
Ardnamurchan	180	54·5	29·787	1	3	1	9	7	5	2	2	0	0	11	2·06	50
Rhinns of Islay	150	54·9	29·828	2	1	3	6	9	3	2	2	2	42	15	2·91	2
Mull of Kintyre	297	54·7	29·696	2	2	2	12	6	1	3	2	0	15	13	1·47	7
Turnberry	96	55·5	29·911	4	3	3	8	6	3	3	0	0	0	10	2·25	4
Corsewall	112	54·8	29·885	0	3	2	4	7	8	4	1	1	12	11	3·82	3
Mull of Galloway	325	55·0	29·661	0	3	2	5	6	7	4	2	1	30	9	2·59	15

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

October–December 1904.

	Height.	Mean Temperature.	Barometer. Mean at 32°.	Direction of Wind. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm or Variable.	Gales and Storms.	Rain. Days.	Rain. Amount.	Fog.
OCTOBER.	Feet.	°	Inches.										Hrs.		Inches	Hrs.
St. Abb's Head	224	49·5	29·779	2	1	1	2	6	8	9	2	0	11	2	0·25	8
Isle of May	240	50·1	29·741	3	1	1	1	3	5	15	2	0	12	8	0·09	61
Bell Rock	93	50·2	29·896	1	1	1	1	4	8	12	3	0	0	8	...	12
Kinnairdhead	120	47·7	29·816	3	1	0	1	8	5	8	5	0	40	15	1·87	30
Tarbetness	175	47·3	29·727	3	1	1	1	3	6	7	9	0	5	12	0·91	12
Pentland Skerries	170	49·2	29·706	2	2	0	1	11	7	4	4	0	6	15	2·46	6
Hoy Sound, Low	55	49·6	29·885	3	1	1	4	5	10	4	3	0	52	19	5·78	6
Start Point	80	49·2	29·801	2	1	1	2	8	5	8	4	0	83	14	3·45	8
Bressay Sound	105	48·0	29·720	2	1	0	2	5	8	7	5	1	36	19	5·20	48
Holbornhead	75	48·4	29·812	1	1	1	4	8	9	6	1	0	0	19	3·29	1
Cape Wrath	400	49·4	29·455	2	1	1	0	5	14	5	3	0	97	22	3·59	8
Butt of Lewis	170	48·9	29·702	1	2	1	1	10	7	5	4	0	14	20	4·60	1
Barrahead	683	47·8	29·215	1	2	1	1	8	8	9	1	0	0	14	2·04	93
Skerryvore	150	50·6	29·811	1	1	1	3	6	6	10	3	0	21	16	...	20
Rona	222	49·2	29·685	1	1	1	1	12	7	5	3	0	0	22	2·48	5
Ardnamurchan	180	50·5	29·778	2	1	2	2	11	3	8	2	0	20	21	5·31	74
Rhinns of Islay	150	51·0	29·844	1	1	1	3	6	5	6	7	1	17	19	4·25	8
Mull of Kintyre	297	50·7	29·695	2	2	3	8	4	2	4	6	0	10	9	1·46	35
Turnberry	96	51·4	29·927	2	2	4	4	8	4	6	1	0	14	14	1·50	1
Corsewall	112	51·1	29·914	2	2	2	6	4	6	4	5	0	16	18	1·65	16
Mull of Galloway	325	50·3	29·688	4	2	2	2	5	8	5	3	0	10	12	1·95	45
NOVEMBER.																
St. Abb's Head	224	43·3	29·704	4	1	0	0	2	7	11	5	0	42	12	2·47	2
Isle of May	240	43·2	29·678	5	1	1	1	1	1	17	3	0	0	8	0·35	56
Bell Rock	93	43·8	29·819	4	2	0	1	1	3	17	2	0	50	8	...	0
Kinnairdhead	120	42·1	29·788	4	3	1	0	1	6	10	5	0	52	20	2·88	1
Tarbetness	175	41·5	29·665	4	3	0	0	1	5	6	11	0	29	15	1·26	5
Pentland Skerries	170	43·6	29·639	5	1	0	1	3	8	8	4	0	72	15	3·16	0
Hoy Sound, Low	55	43·5	29·770	5	1	0	1	3	4	10	5	1	93	19	5·00	11
Start Point	80	43·5	29·726	4	1	1	1	2	5	11	5	0	97	17	2·24	0
Bressay Sound	105	42·8	29·638	3	3	1	1	2	4	9	7	0	0	28	4·80	23
Holbornhead	75	42·3	29·758	2	2	1	1	4	14	5	1	0	60	24	3·99	4
Cape Wrath	400	41·9	29·422	3	2	2	1	1	11	5	5	0	46	28	3·58	38
Butt of Lewis	170	43·6	29·681	5	2	0	1	4	7	8	3	0	54	22	6·04	17
Barrahead	683	42·7	29·210	3	4	1	1	3	6	9	3	0	0	20	1·91	116
Skerryvore	150	45·6	29·814	3	1	2	2	2	4	9	7	0	86	17	...	0
Rona	222	44·0	29·667	2	2	3	2	7	4	8	2	0	15	26	3·87	35
Ardnamurchan	180	45·2	29·768	4	2	1	1	7	3	8	4	0	12	21	4·00	60
Rhinns of Islay	150	46·6	29·830	3	4	1	1	5	2	3	10	1	71	22	3·79	3
Mull of Kintyre	297	45·3	29·656	3	3	3	3	3	3	5	7	0	59	17	2·94	19
Turnberry	96	45·8	29·879	2	3	3	4	3	4	9	2	0	0	15	2·07	7
Corsewall	112	46·5	29·880	2	2	1	3	3	8	5	6	0	84	16	4·52	0
Mull of Galloway	325	45·6	29·666	4	2	1	2	3	7	8	3	0	12	12	2·05	3
DECEMBER.																
St. Abb's Head	224	40·2	29·555	4	1	1	2	4	14	4	1	0	30	9	1·71	14
Isle of May	240	40·9	29·521	3	0	0	1	2	1	19	4	1	40	6	0·23	182
Bell Rock	93	41·2	29·679	3	1	1	1	3	9	11	2	0	85	6	...	34
Kinnairdhead	120	40·3	29·597	4	1	1	1	3	10	6	5	0	58	16	2·96	7
Tarbetness	175	39·8	29·517	3	2	0	2	1	8	8	6	1	24	16	1·36	30
Pentland Skerries	170	41·9	29·490	7	2	1	3	5	7	4	2	0	31	18	2·58	6
Hoy Sound, Low	55	41·7	29·616	4	3	0	5	4	6	5	3	1	52	20	5·48	19
Start Point	80	41·9	29·588	4	1	3	2	5	6	7	3	0	86	16	4·70	0
Bressay Sound	105	42·1	29·509	6	2	1	2	3	8	4	4	1	17	26	9·40	47
Holbornhead	75	40·9	29·594	2	3	1	1	10	6	6	1	1	35	22	4·86	17
Cape Wrath	400	40·9	29·259	2	2	3	2	3	10	6	3	0	42	24	5·17	30
Butt of Lewis	170	42·4	29·495	3	2	2	2	8	7	3	3	1	0	18	6·20	37
Barrahead	683	41·9	29·005	1	3	1	2	9	9	5	1	0	0	18	2·78	127
Skerryvore	150	43·9	29·608	4	1	1	3	8	6	5	3	0	32	16	...	6
Rona	222	42·8	29·474	3	2	3	1	14	4	3	1	0	50	22	3·98	20
Ardnamurchan	180	43·9	29·572	5	2	2	2	10	3	5	1	1	22	15	2·74	81
Rhinns of Islay	150	44·0	29·680	2	3	1	3	8	4	6	2	2	34	16	2·70	9
Mull of Kintyre	297	42·8	...	1	2	1	7	4	8	3	5	0	40	11	1·86	68
Turnberry	96	43·1	29·705	3	1	4	8	5	6	3	1	0	52	10	1·35	14
Corsewall	112	43·5	29·702	3	1	0	9	5	9	3	1	0	42	13	2·46	38
Mull of Galloway	325	42·9	29·491	2	0	2	6	7	6	4	3	1	35	13	2·36	8

5.

REPORT ON THE METEOROLOGY OF SCOTLAND during 1904, and of OBSERVERS' NOTES ON THE STATE OF AGRICULTURE, PUBLIC HEALTH, ETC. By ALEXANDER BUCHAN, Meteorological Secretary.

JANUARY 1904.

The month was characterised by a rather low mean barometric pressure, a high mean temperature, and a rainfall nearly the average in most districts, but decidedly deficient towards the north. [*See* Notes on the Numerical Returns of Scottish Meteorology, p. 235 of this *Journal.*]

The maximum *Black-bulb* in the sun was 96°·0, at Ochtertyre, on 23rd; and the minimum on grass 17°·0, at Glasgow, on 1st, and at Crathes on 24th.

Wind.—As regards direction, winds from S and SW were 1 day and from W 2 days above their average frequency; there being a proportionate deficiency of winds from between N and SE. Moderate gales were frequent during the first half of the month, and occurred also from 28th to 30th. A gale on 15th was associated with a general fall of snow, and snowfalls of a lighter and local character occurred from 10th to 12th, or on other earlier days.

Fog.—Fog was reported in the Firth of Forth from 4th to 6th, and on 11th, 13th, and 19th, whilst on 18th and 19th most of the northern and western lighthouses reported fog, often of a dense character.

Halos.—*Solar Halos*, none reported. *Lunar Halos*, at Cromarty, on 1st; at Lairg, on 2nd; at Leith, on 3rd; at Nouphead, on 5th; at Lairg, Crathes, and Lednathie, on 23rd; at Nouphead and Inverness, on 26th; at Inverness, on 27th; and at Crathes, Arbroath, Lednathie, and Leith, on 31st.

Thunder without Lightning.—At Flannan Islands, on 6h; at Butt of Lewis, on 27th and 30th; and at Glencarron, on 31st.

Lightning without Thunder.—At Flannan Islands, Pladda, Fort William, and Lochbuie, on 7th; at Pladda and Fort William, on 8th; at Pladda and Fort Augustus, on 9th; at Skerryvore, Glencarron, Fort William, Montroseness, Ochtertyre, Clathick, and Buchlyvie, on 10th; at Rothesay, on 11th; at Lochbuie, on 12th; at Ochtertyre, on 13th; at Inverness, on 14th; at Flannan Islands, Tiumpanhead, and Stourhead, on 27th; at Flannan Islands, on 28th and 30th; at Montrose, on 30th; and at Rothesay, on 30th and 31st.

Thunder with Lightning.—At Nouphead, on 7th; at Kyleakin, Dhuheartach, Sound of Mull, Fladda, Lednathie, and Poltalloch, on 10th; at Monach, on 27th; at Glencarron, on 28th; and at Island Glass, on 30th.

Auroras.—At Lairg, on 7th; and from Ben Nevis, on 23rd.

FEBRUARY 1904.

The month was characterised by an abnormally low mean barometric pressure, a low mean temperature, and a rainfall much above the average in eastern districts and elsewhere, but with areas of decided deficiency in Nithsdale, Clydesdale, some central districts, and the greater part of Inverness-shire.

The maximum *Black-bulb* in the sun was 107°·0, at Edinburgh, on 13th; and the minimum on grass being 8°·9, at Braemar, on 12th.

Wind.—As regards direction, there was a large excess of winds from an easterly quarter. Thus winds from NE were 1 day, from E 2 days, and from SE 1 day above their average frequency; there being a proportionate deficiency of winds from between SW and NW. The weather was frequently of a very wintry character, and was exceptionally stormy from 12th to 14th and on 20th and 21st, whilst early in the month strong easterly winds caused high tides on the east coast.

Fog.—Very few of the lighthouses reported fog, a little occurring in the Firth of Forth on 10th, and from 25th to 27th, and also in the extreme SW, on 10th.

Halos.—*Solar Halos*, none reported. *Lunar Halos*, at Nouphead, on 1st; at Lairg, on 22nd; at Polkemmet, on 28th; and at Nouphead, on 29th.

Thunder without Lightning.—None reported.

Lightning without Thunder.—At Kyleakin and Sanda, on 12th.

Thunder with Lightning.—At Fort William and Ben Nevis, on 12th.

Auroras.—From Ben Nevis, on 8th; and at Deerness, on 16th.

MARCH 1904.

The month was characterised by a high mean barometric pressure, a rather low mean temperature, and a rainfall below the average except in the extreme south and in some eastern districts.

The maximum *Black-bulb* in the sun was 119°·3, at Braemar, on 10th; and the minimum 11°·0, at Ochtertyre, on 15th.

Wind.—As regards direction, winds from E were 2 days, from SE 1 day, and from S 1 day above their average frequency; winds from W, NW, and N being proportionately deficient. No gales of more than local importance occurred, though the weather was frequently unsettled, moderate falls of snow, sleet, and hail occurring in eastern districts early in the month.

Fog.—The great majority of the lighthouses reported no fog during the month, but a little occurred in the SE between 8th and 12th, and in the E and SW, on 20th.

Halos.—*Solar Halos*, at Glasgow, on 15th. *Lunar Halos*, none reported.

Thunder without Lightning.—At Cally, on 29th.

Lightning without Thunder.—None reported.

Thunder with Lightning.—None reported.

Auroras.—At Balta Sound, on 7th.

APRIL 1904.

The month was characterised by an extremely low mean barometric pressure, a fairly high mean temperature, and a very high mean rainfall except along the east coast, where there was a shortage. Some rainfall stations in Inverness-shire had thrice their normal amounts, and in many districts in west and north fully twice the average rainfall was recorded.

The maximum *Black-bulb* in the sun was 126°·0, at Ochtertyre, on 21st; and the minimum on grass 18°·0, at Braemar, on 1st.

Wind.—As regards direction, there was a very large excess of strong winds from a westerly quarter, winds from SW being 3 days, from W 5 days, and from NW 1 day above their average frequency; there being a proportionate deficiency of winds from between N and SE. The first ten days of the month were of a very stormy character, with wintry weather and falls of snow, sleet, and hail on some days. Indeed one or two of the more exposed lighthouses in west and north, such as Flannan Islands, Cape Wrath, and Stourhead, reported from 1st to 10th a continuous gale from W and SW. Again on 24th and 25th a gale was general from W and NW.

Fog.—A little occurred in E and N, on 15th and on 23rd, and in N, on 28th and 29th. In the W practically none was reported except at Barrahead.

Halos.—*Solar Halos*, at Leith, on 12th; at Fort William, on 14th; at Leith, on 15th; at Rothesay, on 17th and 23rd; and at Leith, on 21st and 27th.

Thunder without Lightning.—At Balta Sound, on 2nd; at Cally, on 3rd; at Stobo, on 22nd; and at Kyleakin, on 26th.

Lightning without Thunder.—At Buchlyvie, on 1st; and at Skerryvore, on 6th.

Thunder with Lightning.—At Paisley, on 1st; at Bressay, on 3rd; at Devaar, on 4th; at Fladda, on 7th; at Glencarron and Polkemmet, on 9th; and at Ochtertyre and Clathick, on 13th.

Auroras.—At Deerness, on 7th and 10th; and at Paisley, on 30th.

MAY 1904.

The month was characterised by a low mean barometric pressure, a slightly low mean temperature, and a rainfall much above the average in nearly all districts.

The maximum *Black-bulb* in the sun was 139°·0, at Ochtertyre, on 20th; and the minimum on grass 21°·1, at Braemar, on 11th.

Wind.—As regards direction, the distribution differed but little from the average, winds from E and SW being each of 1 day more than their average frequency, and winds from N proportionately deficient. Though the weather was unsettled and indeed of a wintry character, gales of more than local importance did not occur. A moderate gale occurred in the Orkneys, on 15th.

Fog.—A little fog occurred in SE, N, and SW, on 5th, 12th, and 13th; rather dense fog in E and N, around the 26th and 30th; and moderately dense fog in the SW, around the 24th, and from 29th to 31st.

Halos.—*Solar Halos*, at Rothesay and Paisley, on 4th; at Fort William, on 19th; at Inverness and Rothesay, on 20th; and at Inverness, Rothesay and Leith, on 25th. *Lunar Halos*, none reported.

Thunder without Lightning.—At Cally, on 2nd; at Lednathie, on 16th; at Aberdeen, on 17th; at Duns, on 19th; at Montrose, on 21st; at Lednathie, on 24th; and at Deerness, Fort Augustus, Fort William, Braemar, Glenquoich, Fladda, Stronvar, Dalkeith, Duns, and Rothesay, on 26th.

Lightning without Thunder.—At Fladda, on 1st; at Rothesay, on 4th; and at North Ronaldshay, on 26th.

Thunder with Lightning.—At Fort William and Braemar, on 1st; at Lednathie, on 13th; and at Hoy High, Hoy Low, Nosshead, Start Point, Holbornhead, Tillypronie, Lednathie, and Balruddery, on 26th.

Auroras.—At Rothesay, on 2nd; and from Ben Nevis, on 6th.

JUNE 1904.

The month was characterised by a high mean barometric pressure, a slightly low mean temperature, and a rainfall below the average in most districts and nowhere greatly above. On the east coast there was a very decided deficiency.

The maximum *Black-bulb* in the sun was 145°·0, at Ochtertyre, on 2nd; and the minimum on grass 25°·0, at Crathes, on 7th.

Wind.—As regards direction, winds from NE were 3 days and from E 1 day above their average frequency; there being a proportionate deficiency of winds from a westerly quarter. Very stormy weather prevailed from 15th to 17th.

Fog.—Hardly any fog was reported on the west coast. In the east, however, 1st, 5th, 29th, and 30th, and in the north 18th, were marked by a considerable amount of fog.

Halos.—*Solar Halos*, at Fort William, on 2nd; and at Leith, on 11th and 21st. *Lunar Halos*, none reported.

Thunder without Lightning.—At Crathes, on 1st; at Fort Augustus, Ochtertyre, and Buchlyvie, on 4th; at Clathick, on 21st; at Leadhills and Marchmont, on 24th; at Leadhills, Marchmont, and Drumlanrig, on 25th; at Marchmont and Duns, on 26th; at Duns, on 27th; and at Balruddery, on 30th.

Lightning without Thunder.—None reported.

Thunder with Lightning.—At Dumfries, on 23rd; and at Drumlanrig, on 24th and 26th.

Auroras.—None reported.

JULY 1904.

The month was characterised by a high mean barometric pressure, an average mean temperature, and a rainfall much below the average in nearly all districts.

The maximum *Black-bulb* in the sun was 146°·0, at Crathes, on 18th; and the minimum on grass 29°·8, at Braemar, on 13th.

Wind.—As regards direction, winds from NE were 1 day, from E 2 days, from SE 1 day, and from S 1 day above their average frequency; the large excess of winds from an easterly quarter being balanced by a proportionate deficiency of winds from between W and N. The mean wind-force of the month was a little below the average, but winds of gale-force were reported at one or two northern lighthouses about 7th, and at a few western ones about 14th.

Fog.—Fog was reported with considerable frequency, being very prevalent on the east coast, on 11th and 12th, from 22nd to 25th, and from 28th to 31st; and on the west between 5th and 11th.

Halos.—*Solar Halos*, at Rothesay, on 5th; at Balta Sound, on 17th; and at Paisley, on 30th. *Lunar Halos*, none reported.

Thunder without Lightning.—At Aberdeen, Montrose, Arbroath, Lednathie, Dundee, Ochtertyre, Edinburgh, Leith, and Polkemmet, on 2nd; at Wick, Crathes, Montrose, Arbroath, Dundee, Smeaton, Marchmont, and Duns, on 3rd; at Broomlands and Drumlanrig, on 12th; at Lairg, Glenquoich, Braemar, and Stronvar, on 13th; at Ochtertyre, on 14th; at Buchlyvie, on 21st; at Loanhead, Braemar, Coldstone, Aberdeen, Lednathie, Perth, Stronvar, Ochtertyre, Clathick, Buchlyvie, Paisley, Kilmarnock, Dalkeith, Duns, and Broomlands, on 22nd; at Cargen and Holy Island, on 23rd; at Braemar, on 29th; at Arbroath and Duns, on 30th; and at Inverness, Glenquoich, Gordon Castle, Aberdeen, Braemar, Coldstone, Montrose, Ochtertyre, Buchlyvie, Greenock, Glasgow, Smeaton, and Broomlands, on 31st.

Lightning without Thunder.—At Crathes and Montroseness, on 30th.

Thunder with Lightning.—At Gordon Castle, Crathes, and Clathick, on 2nd; at Montroseness and Kinnairdhead, on 3rd; at Cargen, Cally, Holy Island, and Little Ross, on 12th; at Glencarron, Lednathie, Ochtertyre, Clathick, Dumfries, Hoy High, Nouphead, and Kyleakin, on 13th; at Crathes, Glasgow, and Marchmont, on 22nd; and at Dunrobin, Fort Augustus, Fort William, Dundee, Crathes, Arbroath, Lednathie, Balruddery, Clathick, Rothesay, Poltalloch, Lochbuie, Barn's Ness, Montroseness, Hoy Low, Nouphead, Holbornhead, Dhuheartach, Fladda, Rhuvaal, Lochindaul, and M'Arthur's Head, on 31st.

Auroras.—None reported.

AUGUST 1904.

The month was characterised by a rather high mean barometric pressure, a slightly low mean temperature, and a rainfall much above the average in nearly all districts.

The maximum *Black-bulb* in the sun was 139°·0, at Ochtertyre, on 27th; and the minimum on grass 24°·5, at Braemar, on 25th.

Wind.—As regards direction, winds from NW were 2 days and from S 1 day above their average frequency; winds from both E and W being deficient. Winds of gale-force were reported at lighthouses towards the SW, on 14th and 15th, and also at Kinnairdhead.

Fog.—The month was very free from fog until near the end, when a good deal was reported, especially around the northern islands and in the extreme SW.

Halos.—*Solar Halos*, at Paisley, on 2nd and 16th. *Lunar Halos*, at Balta Sound, on 27th.

Thunder without Lightning.—At Rothesay, on 1st; at Crathes and Cally, on 4th; at Dalkeith, on 5th; at Smeaton and Duns, on 6th; at Leith, on 9th; at Arbroath, Smeaton, Duns, Stobo, and Polkemmet, on 10th; at Duns, on 11th; at Lairg, Fort William, Montrose, Ochtertyre, Poltalloch, and Cargen, on 14th; at Dalkeith, Smeaton, and Marchmont, on 15th; at Dalkeith, on 16th; at Duns, on 17th; at Lednathie, Buchlyvie, Leith, Polkemmet, Marchmont, Duns, and Stobo, on 18th; at Smeaton and Dalkeith, on 21st; at Buchlyvie, on 22nd; at Duns, on 29th; at Stourhead, on 30th; and at Balta Sound, on 31st.

Lightning without Thunder.—At Crathes, on 1st; and at Rothesay, on 5th.

Thunder with Lightning.—At Balruddery, on 1st; at Lismore, on 2nd; at Dhuheartach, on 3rd; at Crathes, Arbroath, Leith, Smeaton, and Marchmont, on 5th; at Peterhead, Montrose, Arbroath, Rothesay, and Kinnairdhead, on 6th; at Lednathie, Marchmont, and Broomlands, on 10th; at St. Abb's Head, on 11th; at Montrose, on 12th; at Clathick, Dumfries, Cally, Corran, Fladda, Lochindaul, and Little Ross, on 14th; at Tillypronie, Coldstone, and Crathes, on 17th; at Glencarron, Perth, Ochtertyre, and Clathick, on 18th; at Balta Sound, on 22nd; at Rona and Kyleakin, on 30th; and at Glencarron, Inverness, and Braemar, on 31st.

Auroras.—None reported.

SEPTEMBER 1904.

The month was characterised by a high mean barometric pressure, an average mean temperature, and a rainfall decidedly below the normal, except in some central, western, and south-western districts.

The maximum *Black-bulb* in the sun was 130°·0, at Ochtertyre, on 27th; and the minimum on grass 18°·5, at Braemar, on 14th.

Wind.—As regards direction, there was a marked excess of winds from a south-east quarter; winds from E, from SE, and from S having each 2 days more than their average frequency; and winds from between SW and N being proportionately deficient. The weather was stormy, especially in the south-west, on 4th and 5th, and winds of gale-force were reported from various scattered lighthouses on 9th, 12th, and 30th.

Fog.—Fog was infrequent and of a sporadic character; but in the east the 29th was a very foggy day, whilst at Ardnamurchan a good deal occurred from 17th to 21st.

Halos.—*Solar Halos*, at Fort William, on 2nd; at Deerness, Nouphead, Fort William, and Paisley, on 4th; at Fort William, on 13th; at Leith, on 14th, 15th, 17th, and 19th; at Rothesay, on 19th; and at Inverness, on 30th. *Lunar Halos*, at Leith, on 19th; and at Inverness, on 20th and 22nd.

Thunder without Lightning.—At Glencarron, on 3rd; at Paisley, on 6th; and at Buchlyvie, on 16th.

Lightning without Thunder.—At Holy Island, on 26th.

Thunder with Lightning.—None reported.

Auroras.—At Nouphead, on 8th.

OCTOBER 1904.

The month was characterised by an extremely high mean barometric pressure, a high mean temperature, and only half the average rainfall, the month being on the whole the driest October since 1879, and in many districts the driest on record.

The maximum *Black-bulb* in the sun was 117°·0, at Edinburgh, on 11th; and the minimum on grass 18°·0, at Crathes, on 18th.

Wind.—As regards direction, winds from SW were 2 days and from W 2 days above their average frequency; and winds from between N and SE proportionately deficient. The weather was extremely unsettled early in the month, and on the night of the 5th a gale from SW was general; whilst at Stourhead lighthouse the wind was of gale-force continuously from 1st to 6th. A gale from SW was again general on the night of the 16th; whilst on 8th, 21st, and 25th gales were reported from various lighthouses.

Fog.—A good deal was reported on all coasts about 20th and 21st, the occurrence at places being of an extremely dense character. Later in the month, the 28th was a somewhat foggy day in both east and west, especially in the Firth of Forth.

Halos.—*Solar Halos*, at Inverness, on 14th; and at Leith, on 17th, 19th, 23rd, and 30th. *Lunar Halos*, at Inverness, on 18th; and at Turnberry, on 28th.

Thunder without Lightning.—None reported.

Lightning without Thunder.—None reported.

Thunder with Lightning.—At Corran, on 5th.

Auroras. — At Deerness, Nouphead, and North Ronaldshay, on 13th; and at Nouphead and North Ronaldshay, on 14th.

NOVEMBER 1904.

The month was characterised by a high mean barometric pressure, an average mean temperature, and a rainfall very much below the average in nearly all districts.

The maximum *Black-bulb* in the sun was 113°·2, at Edinburgh, on 13th; and the minimum on grass 4°·5, at Crathes, on 26th.

Wind.—As regards direction, winds from W were 3 days and from NW 2 days above their average frequency; and winds from between E and SW proportionately deficient. The weather was more or less stormy from 2nd to 10th, with pronounced gales in the north on 3rd and 5th, and in west and south on 7th and 8th. Gales again occurred between 18th and 24th, with very wintry weather, a snowstorm being general between 21st and 24th.

Fog.—Fog was infrequent until the 26th, when the south-east coast was visited by an occurrence of a very dense character. At Inchkeith fog was continuous on 27th and 28th, and all but continuous from 26th to 30th.

Halos.—*Solar Halos*, at Trinity, on 10th. *Lunar Halos*, at Nouphead, on 1st; at Perth, on 20th; at Dumfries, on 24th and 26th; and at Glasgow, on 25th.

Thunder without Lightning.—At Holbornhead, on 19th; at Covesea, on 23rd; and at Smeaton, on 24th.

Lightning without Thunder.—At Balta Sound, on 1st; at Kyleakin, on 7th; at Balta Sound, on 17th; and at Holy Island, on 24th.

Thunder with Lightning.—At Gordon Castle and Broomlands, on 23rd; and at Gordon Castle and Smeaton, on 24th.

Auroras. — At Balta Sound, on 9th and 22nd.

DECEMBER 1904.

The month was characterised by a mean barometric pressure about the average, a slightly high mean temperature, and a rainfall on the whole below the normal, though above it in a few districts.

The maximum *Black-bulb* in the sun was 87°·0, at Edinburgh, on 30th; and the minimum on grass 5°·0, at Crathes, on 11th.

Wind.—As regards direction, the distribution hardly differed from the average, there being a 1 day's excess of winds from W and a proportionate deficiency of winds from E. Gales were general from SW on 4th and 5th, from N on 12th, and from NW on 29th and 30th. From 7th to 12th a snowstorm was general.

Fog.—There was an unusually prolonged visitation of fog in the Firth of Forth from 19th to 28th, whilst between 21st and 25th a good deal was reported from various lighthouses in north and west.

Halos.—*Solar Halos*, none reported. *Lunar Halos*, at Trinity, on 20th; and at Nouphead, on 20th and 21st.

Thunder without Lightning.—At Paisley, on 30th.

Lightning without Thunder.—At Inverness, on 5th and 16th; and at Butt of Lewis, on 11th.

Thunder with Lightning.—At Balta Sound and Kyleakin, on 2nd.

Auroras.—None reported.

OBSERVERS' NOTES ON THE STATE OF PUBLIC HEALTH, ETC., DURING 1904.

JANUARY 1904. — **DUNROBIN** : — Month fairly good for outdoor work. Keep for farm stock fairly plentiful. In some cases potatoes could not be got up in time, and have been left in the ground.

ROTHESAY :—Dull, showery, and unsettled, with frequent gales, more especially near end of month. Rainfall nearly the average.

FEBRUARY 1904.—**WATTEN** :—Wet and squally and very changeable, with slight frosts and frequent storms of rain and snow.

ROTHESAY :—First and latter part of the month dull and unsettled, with continuous rain on the 24th and 25th. There were several fine days, with sharp frost near the middle of the month. There have only been the slightest indications of snow. Ground surcharged with water, and field labour has been greatly retarded.

CARGEN : — Sunless, though dry. Vegetation was severely checked by cold east wind during last week.

MARCH 1904.—**DUNROBIN** :—The month was fairly dry on the whole, particularly towards the close. Outdoor work well advanced, and a good deal of sowing done about the end.

ROTHESAY :—The most seasonable March for the last two years. There were sixteen days on which no rain fell. Sharp frost in the middle and end of month.

CARGEN :—Wet, cold, and sunless, with vegetation very backward and farm work at a standstill.

APRIL 1904.—**DEERNESS** :—Wettest April for forty-six years. Only about one-third of oats sown.

DUNROBIN :—A wet month, and troublesome seed time. Agricultural conditions of district good generally. Fruit prospects good.

ROTHESAY :—A stormy, unsettled month, with heavy rainfall. Growth made little progress till near the end of the month. Sowing and planting, though greatly retarded, is now completed, and early sowings are showing above ground.

MAXWELTON HOUSE :—The first half was wet and cold, the second fine and warm, with much sunshine.

MAY 1904. — **DUNROBIN** : — Month very suitable for outdoor operations, with an absence of frost at nights, favourable to the setting of fruit crops. Farm crops mostly got in, in good order.

ROTHESAY :—First half showery, changeable, and cold, the latter part comparatively fine, and growth has now made good progress. Turnip sowing nearly completed. Oat fields look bleak and bare from the effects of grub-worm on several farms. Trees are all in full leaf, except the later ash, which is bursting into leaf.

LILLIESLEAF :—Excessive amount of blossom on fruit trees, probably owing to the absence of insects caused by the late excessive rains.

MAXWELTON HOUSE :—A fine month, the first half being cold and the second warm.

JUNE 1904.—**DUNROBIN** :—Crops looking well on good soils; suffering on light lands. Gale on 16th spoiled foliage on trees where much exposed. Fruit prospects good.

CRATHES :—A strong gale occurred on 16th, and caused a considerable amount of damage amongst fruit trees.

CLATHICK :—Storm from W and NW, 16th to 21st, doing a good deal of damage to fruit trees, currant and gooseberry bushes, etc.

ROTHESAY :—The first ten days, though chilly, were remarkably fine. This was followed by welcome showers, which cheered the thirsty ground, and in a great measure secured crops generally. The last ten days were all that could be desired. June frosts have been less conspicuous than for some years. Hay-cutting has commenced on some farms, and turnip-thinning is well advanced, and in some places completed.

LILLIESLEAF :—The weather was quite satisfactory for agricultural purposes, and there is grass in abundance.

CARGEN :—Fine genial weather during the first half, but the latter part was wet, cold, and squally. Great promise of fruit and farm crops.

JULY 1904.—**DEERNESS** :—Hay is considerably less than an average crop. Turnips promise to be a good crop. Grain, average on good land, but light on poor soils.

DUNROBIN :—Month fine. Crops promising well. On light soils, rain required by end of month. Fruit of all kinds good crop outdoors.

Cargen:—Grand hay weather, and corn and green crop prospects exceptionally good.

AUGUST 1904.—**Deerness**:—The crops, oats, bere, turnips, and potatoes, are all a good crop.

Dunrobin:—Month favourable for growing crops, with frequent showers. Farm and garden crops mostly good. Straw in some places likely to be shorter than usual.

Rothesay:—Taken as a whole, the weather has been more conducive to growth than ripening of the grain. Harvest begun on 25th, and the reaper is now in full swing.

Lilliesleaf:—Cold and rainy up to the last three days. Crops were looking well, but backward owing to small amount of sunshine. Harvest not commenced.

Maxwelton House:—Fine and warm. A heavy hay crop was well got in, and there was plenty of grass and aftermath.

SEPTEMBER 1904.—**Deerness**:— Grain will be an average crop but fodder rather light. Turnips and potatoes are an abundant crop and free from disease.

Dunrobin:—A very good harvest month. Crop shorter than was expected. Oat-straw shorter than average. Yield less than average. Turnips and potatoes good. Very little disease so far.

Rothesay:—The first half of the month was wet and unsettled. Latter half fine and highly favourable for harvest work, which is now nearly completed. Turnip crop looks well, and pasture is still fresh and green.

Colmonell:—The first nine days and the last two were wet, but the remainder was ideal weather for harvest.

Trinity: — A very favourable harvest month.

Lilliesleaf:—The latter half of the month was quite lovely, but the leaves were beginning to turn at the end. Crops good and heavy and well got in.

Maxwelton House:—The last three weeks were very fine, bright, and dry, and excellent for the harvest.

Cargen:—Notwithstanding the wet weather at the beginning a better harvest has not been experienced for many years. Potatoes and turnips, however, suffered.

OCTOBER 1904.—**Deerness**:—The gathered crop shows that the fodder is generally less in bulk, but the grain superior in quality. There are splendid crops of turnips and potatoes free from disease.

Dunrobin:—Harvest secured in good order generally. Straw is turning out somewhat short and scarce, though grain is fairly good. Potatoes very free from disease, and good crop generally. Turnips good in places.

Rothesay:—Weather remarkably fine for the season. Rainfall only amounted to a little more than half the average.

Lilliesleaf:—Lovely weather, like a cool summer, with little rain, and splendid for getting in potatoes, of which there is a capital crop.

Cargen:—One of the driest and warmest Octobers on record. A truly "record" year in matters agricultural.

NOVEMBER 1904.—**Dunrobin**:—Month fairly mild and suitable for outdoor operations. Straw scarce. Turnips good in district. Potatoes good.

Rothesay:—The first half of the month was almost summer-like at times. This was followed by sharp frost from 20th to 25th, and a fall of snow on 21st. The covering of snow protected grass and vegetation generally, leaving the fields a verdant green after the disappearance of the snow.

DECEMBER 1904.—**Deerness**:—The rainfall of 1·48 in. on the 29th is the heaviest for the time for at least fifteen years.

Dunrobin:—Month fairly open and mild. Agricultural condition of district fairly good.

Rothesay:—Comparatively mild for the season. The gale on the 29th blew down a number of trees in some of the more exposed plantations, but, compared with the mainland, Bute has escaped the extremes of frost and storm.

RETURNS from STATIONS connected with the MEDICAL DEPARTMENT, and from ADDITIONAL STATIONS in connection with the SOCIETY, during the Year 1904.

STATIONS AND OBSERVERS' NAMES.	Height above Sea-Level.	Months.	BAROMETER.	AIR TEMPERATURE.					HYGROMETER. Mean at 9 a.m. and 9 p.m.				CLOUD.	RAIN.				WIND DIRECTION. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCES. Scale of 0-12.
			Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean Max. A.	Mean Min. B.	Mean of A and B.	Highest.	Lowest.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.	Scale 0-10.	No. of Days.	Total Fall.	Most in a Day. Amount	Most in a Day. Day of Month.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	
	ft.	1904		in.	in.	in.	in.	in.	°	°	°				in.	in.											
BALTASOUND (Halligarth), (Shetland.) T. EDMONDSTON SAXBY, L.R.C.S.E.	50	Jan.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Feb.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Mar.	...	42·4	36·1	39·3	48·4	28·5	39·4	1·4	·214	89	6·6	24	3·04	0·30	13	4	2	6	8	12	26	4	0	0	4·2
		Apr.	...	46·7	38·2	42·4	52·0	33·4	42·2	1·7	·233	88	6·8	24	3·99	0·53	24	2	2	2	9	12	5	22	5	1	3 6
		May	...	50·2	41·6	45·9	56·5	35·0	45·9	2·7	·249	81	6·4	22	2·45	0·52	2	5	18	8	8	11	2	10	4	1	3·9
		June	...	54·5	45·8	50·2	62·9	39 0	50·0	2·6	·295	82	7·3	18	1·84	0·44	14	6	21	2	6	2	6	12	5	0	4·2
		July	...	56·7	48·7	52·7	68·0	42·5	52·5	2·2	·336	84	8·1	18	1·01	0·25	10	1	18	1	5	5	12	10	10	0	3 6
		Aug.	...	56·7	48·9	52·8	65·0	38·0	53·1	2·5	·336	83	8·8	21	2·09	0·54	10	9	14	1	6	4	11	5	12	0	3·4
		Sept.	...	55·9	49·1	52·5	59·0	39·5	52·4	1·8	·346	88	7·5	18	2·05	0·60	30	4	6	9	4	10	18	6	8	0	4·1
		Oct.	...	50·5	43·4	47·0	55·0	32·4	47·0	1·5	·287	90	8·4	28	4·96	0·96	5	8	2	2	2	1	18	28	6	0	4·3
		Nov.	...	46·1	36·7	41·4	52·5	26·0	41·5	2·0	·221	85	6·8	29	4·58	0·77	21	18	6	0	0	2	14	16	4	0	4·0
		Dec.	...	43·9	36·2	40·0	49·8	23·5	39·6	1·5	·213	88	7·7	31	5·76	1·38	11	4	8	0	2	6	8	16	18	0	4·4
		1904																									
COLDSTONE, SCHOOLHOUSE, (Aberdeen.) J. B. ANDERSON.	608	Jan.	...	42·6	33·5	38·0	56·0	23·0	...	...	...	...	...	21	1·55	0·20	2, 31	0	0	0	8	5	22	9	13	5	...
		Feb.	...	37·2	28·1	32·7	44·0	19·0	...	...	...	...	...	22	4·20	0·87	2	9	1	1	6	7	2	3	13	16	...
		Mar.	...	42·4	30·0	36·2	55·0	23·0	...	...	...	...	...	19	1·84	0·44	6	5	4	0	5	4	9	5	10	20	...
		Apr.	...	51·0	35·8	43·4	60·0	28·0	...	...	...	...	...	23	2·20	0·30	5	0	0	0	2	7	4	20	16	11	...
		May	...	54·7	39·9	47·3	71·0	31·0	...	...	...	...	...	20	2·96	0·64	5	5	0	0	9	4	4	10	10	20	...
		June	...	63·2	44·8	54·0	76·0	36·0	...	...	...	...	...	14	0·82	0·28	24	1	0	2	3	5	0	6	12	31	...
		July	...	65·0	47·7	56·4	75·0	38·5	...	...	...	...	...	9	1·32	0·42	3	0	0	0	15	5	5	15	1	21	...
		Aug.	...	62·3	46·8	54·6	75·5	33·0	...	...	...	...	...	23	4·52	1·33	4	0	1	1	1	5	7	7	23	17	...
		Sept.	...	59·6	42·8	51·2	75·0	32·0	...	...	...	...	...	16	2·10	0·91	2	0	0	0	9	7	2	9	8	25	...
		Oct.	...	53·5	38·1	45·8	61·5	23·0	...	...	...	...	...	14	0·77	0·17	5	0	0	0	1	12	9	8	13	19	...
		Nov.	...	45·0	33·3	39·2	60·0	9·0	...	...	...	...	...	13	1·55	0·35	23	1	0	0	0	3	2	15	22	17	...
		Dec.	...	40·7	31·7	36·2	55·0	5·0	...	...	...	...	...	22	2·90	1·00	12	3	2	0	0	5	2	23	8	19	...
		1904																									
HELENSBURGH II., (Dumbarton.) J. R. WILSON, Water Superintendent.	300	Jan.	...	43·5	35·7	39·6	48·7	28·8	39·4	1·4	·214	89	...	28	3·70	0·62	2	...	...	...	...	...	...	...	...	...	...
		Feb.	...	40·7	31·7	36·2	47·0	25·5	35·0	1·0	·184	90	...	18	4·68	0·96	21	...	...	...	...	...	...	...	...	...	...
		Mar.	...	43·6	32·1	37·8	54·2	26·0	37·1	1·5	·192	87	...	18	2·08	0·28	31	...	...	...	...	...	...	...	...	...	...
		Apr.	...	50·1	38·8	44·4	58·2	33·1	44·2	2·1	·244	84	...	27	4·14	0·53	5	...	...	...	...	...	...	...	...	...	...
		May	...	54·5	41·6	48·0	67·5	34·8	47·1	2·2	·272	84	...	21	3·58	0·81	28	...	...	...	...	...	...	...	...	...	...
		June	...	61·9	46·9	54·4	77·0	39·7	53·3	2·4	·341	83	...	14	2·51	0·60	18	...	...	...	...	...	...	...	...	...	...

		1904																									
		July	...	68·1	51·0	57·0	75·0	41·9	56·1	1·6	·404	89	...	18	1·97	0·42	6	...	...	...	...	...	...	...	...	...	...
		Aug.	...	62·9	49·4	56·2	70·2	41·8	55·8	1·0	·417	94	...	22	4·58	0·80	10	...	...	...	...	...	...	...	...	...	...
		Sept.	...	60·1	45·8	53·0	66·2	38·0	51·7	1·6	·342	89	...	17	4·20	0·94	2	...	...	...	...	...	...	...	...	...	...
		Oct.	...	53·5	42·7	48·1	58·8	33·7	46·9	1·3	·288	91	...	20	2·13	0·41	5	...	...	...	...	...	...	...	...	...	...
		Nov.	...	46·3	36·5	41·4	55·8	20·0	41·0	1·1	·233	91	...	21	2·89	0·96	8	...	...	...	...	...	...	...	...	...	...
		Dec.	...	43·6	34·7	39·2	54·0	20·0	38·3	0·7	·217	94	...	21	5·21	0·83	4	...	...	...	...	...	...	...	...	...	...
		1904																									
TRINITY, (Edinburgh.) ARCHD. MACDOWALL, Rait Lodge.	70	Jan.	...	43·3	36·4	39·8	50·2	30·5	39·6	1·5	·213	88	6·0	16	2·10	0·78	11	1	0	2	2	14	14	20	5	4	...
		Feb.	...	41·0	34·4	37·7	47·5	26·3	36·6	1·1	·196	91	6·7	19	2·75	0·60	6	3	5	8	4	13	7	6	1	11	...
		Mar.	...	44·4	35·5	39·8	55·3	30·0	38·8	1·6	·205	87	5·9	20	2·26	0·39	26	5	7	15	0	7	12	5	5	6	...
		Apr.	...	52·0	41·6	46·8	56·6	36·2	45·8	2·7	·248	81	5·5	20	2·42	0·35	3	2	0	1	1	8	10	25	5	8	...
		May	...	54·6	44·3	49·5	66·6	37·4	48·6	2·5	·282	83	7·1	20	3·23	0·77	24	5	9	12	0	13	8	10	1	4	...
		June	...	58·7	49·6	54·1	68·0	46·6	52·2	2·8	·330	81	6·4	12	2·32	0·63	25	5	8	11	1	8	4	12	2	9	...
		July	...	62·4	53·9	58·2	68·2	49·2	57·4	2·7	·393	83	6·8	15	1·55	0·43	15	0	6	12	2	12	10	12	1	7	...
		Aug.	...	62·6	53·4	58·0	73·1	46·1	56·6	2·4	·389	84	5·7	22	5·15	1·21	11	4	4	2	2	13	6	10	9	12	...
		Sept.	...	58·6	49·1	54·0	66·2	42·5	53·0	2·1	·345	85	5·0	17	2·00	0·76	25	3	5	10	5	9	12	5	2	9	...
		Oct.	...	52·6	44·5	48·6	57·4	36·8	48·1	1·9	·289	86	5·2	14	0·96	0·25	7	3	1	3	1	5	11	21	2	15	...
		Nov.	...	45·4	38·7	42·0	55·0	27·5	41·8	1·5	·234	88	5·8	12	1·03	0·43	9	9	3	0	0	1	11	22	0	14	...
		Dec.	...	42·7	36·0	39·4	55·0	24·7	39·4	1·3	·216	90	5·6	17	3·03	1·28	13	3	1	0	0	8	13	17	2	18	...
		1904																									
LISSAN, (Tyrone.) J. H. STAPLES.	305	Jan.	29·508	43·8	34·0	38·9	50·0	26·0	38·7	0·9	·220	93	...	24	4·18	0·60	2	3	0	8	1	2	0	38	10	0	...
		Feb.	29·210	41·3	32·5	36·9	48·0	25·0	37·3	1·1	·201	91	...	27	4·95	1·81	24	4	2	20	2	0	0	28	2	0	...
		Mar.	29·709	45·3	33·5	39·4	54·0	23·0	39·4	1·5	·212	88	...	21	2·69	0·45	31	7	0	28	0	3	1	20	3	0	...
		Apr.	29·581	52·3	39·2	45·8	60·0	32·0	45·4	2·7	·244	81	...	25	3·65	0·53	1	14	0	3	4	2	0	30	7	0	...
		May	29·660	57·5	42·5	50·0	67·0	35·0	49·8	3·1	·283	79	...	19	2·49	0·60	31	15	3	15	4	3	1	18	3	0	...
		June	29·780	63·9	47·1	55·5	74·0	41·0	55·3	3·4	·343	78	...	11	2·02	0·61	14	12	4	8	1	5	1	26	3	0	...
		July	29·723	65·7	51·5	58·6	75·0	43·0	58·2	2·7	·404	83	...	20	3·78	0·47	30	19	2	5	3	4	0	24	5	0	...
		Aug.	29·781	63·5	49·4	56·4	72·0	40·0	55·5	2·0	·382	87	...	27	4·90	0·80	30	12	1	4	2	0	0	34	9	0	...
		Sept.	29·780	60·7	45·0	52·8	65·0	36·0	52·7	1·9	·347	88	...	16	4·49	1·25	2	14	1	10	5	0	3	21	6	0	...
		Oct.	29·828	54·9	41·7	48·3	61·0	31·0	48·0	1·4	·301	90	...	22	1·96	0·35	16	7	0	3	3	1	0	46	2	0	...
		Nov.	29·832	47·7	36·7	42·2	55·0	21·0	42·2	1·1	·246	92	...	26	3·50	0·74	6	11	0	3	0	0	0	43	3	0	...
		Dec.	29·620	44·3	34·4	39·4	54·0	28·0	39·4	1·0	·222	92	...	24	3·17	0·36	4	11	5	5	0	0	0	36	5	0	...
		1904																									
LLANDUDNO, (Carnarvon.) WILLIAM LITTLE.	21	Jan.	...	46·6	37·8	42·2	54·0	25·5	41·9	2·1	·224	85	6·0	22	3·48	0·49	8	0	2	3	2	8	17	17	9	4	3·5
		Feb.	...	44·1	35·7	39·9	58·0	25·5	39·5	2·0	·204	84	6·6	22	3·00	0·60	3	4	2	6	8	6	10	16	4	2	2·7
		Mar.	...	46·8	36·2	41·5	55·0	29·0	41·1	2·6	·205	80	6·2	11	1·31	0·40	14	2	5	19	0	2	10	17	1	6	3·1
		Apr.	...	54·0	43·1	48·6	62·0	33·8	47·7	3·1	·259	79	5·4	17	1·49	0·18	2	5	0	1	1	5	7	32	4	5	3·4
		May	...	57·3	45·8	51·6	76·0	36·8	51·4	3·2	·300	79	5·1	14	1·85	0·54	27	2	3	9	2	0	5	26	11	4	2·9
		June	...	63·0	50·6	56·8	76·0	45·8	56·7	4·2	·344	74	4·5	8	1·93	1·00	1	3	1	12	0	4	12	16	4	8	3·1
		July	...	67·9	55·3	61·6	80·2	49·8	61·7	4·3	·414	75	4·9	20	2·37	0·66	24	2	2	8	5	10	12	21	1	1	2·9
		Aug.	...	65·8	53·6	59·7	78·0	45·0	59·3	4·0	·385	76	5·5	17	3·26	0·70	21	6	2	0	2	5	16	19	8	4	2·9
		Sept.	...	63·3	51·1	57·2	72·0	46·2	56·3	3·7	·351	77	4·4	10	1·15	0·33	12	3	4	12	5	11	7	8	9	1	3·0
		Oct.	...	57·0	47·3	52·2	64·0	36·8	51·4	2·9	·307	81	5·4	13	1·29	0·46	16	5	2	5	2	8	11	23	6	0	3·0
		Nov.	...	50·6	41·6	46·1	57·0	29·5	45·8	2·5	·253	82	6·5	15	1·84	0·40	27	9	2	5	2	5	2	28	7	0	3·1
		Dec.	...	47·2	38·4	42·8	60·0	30·0	43·2	2·8	·221	79	4·9	20	3·01	0·70	17	2	1	4	3	11	8	25	6	2	3·0

RETURNS from STATIONS connected with the MEDICAL DEPARTMENT, and from ADDITIONAL STATIONS in connection with the SOCIETY, during the Year 1904—*Contd.*

STATIONS AND OBSERVERS' NAMES.	Height above Sea-Level.	Months.	BAROMETER.	AIR TEMPERATURE.					HYGROMETER. Mean at 9 a.m. and 9 p.m.				CLOUD	RAIN.				WIND DIRECTION. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCES. Scale of 0-12.
			Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean Max. A.	Mean Min. B.	Mean of A and B.	Highest.	Lowest.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.	Scale 0-10.	No. of Days.	Total Fall.	Most in a Day. Amount	Most in a Day. Day of Month.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	
HEBRON, (Palestine.) Lat. 31° 31′ N. Long. 35° 8′ E. Dr. ALEXANDER PATERSON. (Observations taken at 8 A.M. and 7 P.M.)	ft.	1904		in.	in.	in.	in.	in.	°	°	°				in.	in.											
	2900	Jan.	27·013	50·6	37·4	44·0	67·0	29·0	42·7	1·2	·248	90	5·8	18	8·43	2·85	24	2	6	8	6	2	1	21	16	0	2·8
		Feb.	27·041	58·8	39·6	49·2	67·7	34·0	48·4	3·7	·254	75	3·6	7	0·57	0 23	3	11	3	1	9	3	3	13	15	0	2·3
		Mar.	26·926	59·7	41·7	50·7	71·2	33·0	49·7	3·9	·265	74	4·8	8	3·53	1·44	3	5	2	2	9	4	8	25	12	0	3·5
		Apr.	26·964	68·5	46·0	57·3	86·5	34·4	55·6	7·4	·260	59	1·7	4	1·12	0·94	30	10	1	7	9	0	8	16	14	0	3·2
		May	26·972	75·9	49·2	62·6	91·0	41·0	60·6	5·6	·362	69	0·0	2	0·01	...	...	8	4	5	2	5	7	16	15	0	3·1
		June	26·948	83·3	53·1	68·2	93·0	44·0	67·4	8·9	·381	56	0·2	0	0·00	...	...	14	0	0	0	2	1	8	35	0	3·1
		July	26·870	85·5	57·1	71·3	99·0	47·8	71·6	10·3	·411	53	0·2	0	0·00	...	...	12	1	0	0	1	0	9	39	0	3·1
		Aug.	26·920	86·2	57·5	71·8	94·9	52·2	71·6	10·2	·414	54	0·6	0	0·00	...	...	1	1	1	0	2	1	9	47	0	2·6
		Sept.	27·013	82·7	53·8	68·2	87·5	47·6	67·3	7·3	·421	63	1·0	0	0·00	...	...	15	1	2	0	0	2	5	35	0	2·6
		Oct.	27·041	81·5	55·7	68·6	93·9	43·0	66·6	10·0	·342	52	3·8	2	0·02	...	...	7	6	10	10	0	0	9	20	0	2·6
		Nov.	27·058	64·5	44·8	54·6	77·0	34·5	53·2	3·0	·325	80	4·8	10	2·73	1·18	13	2	3	3	3	1	3	18	27	0	2·8
		Dec.	27·038	52·9	37·1	45·0	63·5	32·0	43·2	1·4	·249	89	4·1	18	12·62	4·08	2	3	2	8	6	0	8	21	24	0	3·1
CHRISTMAS ISLAND, Lat. 10° 25′ S. Long. 105° 43′ E. W. S. ANDERSON, F.C.S.		1904																									
	18	Jan.	29·812	87·9	74·4	81·1	92·1	72·0	77·8	2·6	·825	86	3·1	12	2·21	0·42	31	0	2	4	2	7	5	8	2	32	1·1
		Feb.	29·790	85·9	74·7	80·3	90·0	72·0	77·9	2·3	·841	88	5·0	21	21·09	5·52	8	0	0	1	0	6	7	10	15	19	2·0
		Mar.	29·802	89·2	74·3	81·7	92·9	72·5	78·8	3·3	·819	82	2·9	9	1·93	1·09	31	1	2	2	3	10	12	0	0	32	1·1
		Apr.	29·811	87·5	74·6	81·0	89·8	73·0	78·0	2·0	·857	89	4·2	21	8·17	1·66	9	0	2	17	10	1	0	2	0	28	1·2
		May	29·833	86·0	74·1	80·0	89·0	70·1	77·0	1·5	·853	91	4·5	22	24·71	5·69	25	1	13	26	2	0	0	0	1	19	1·6
		June	29·880	84·6	72·8	78·7	87·6	70·3	75·6	1·6	·809	91	4·6	18	7·47	2·74	30	1	10	31	5	0	0	0	1	12	2·0
		July	29·839	85·6	73·4	79·5	87·7	71·4	76·6	2·2	·809	88	4·0	20	16·55	5·89	20	8	10	14	4	0	0	2	3	21	1·5
		Aug.	29·903	86·7	72·2	79·4	88·2	69·1	76·7	4·3	·719	78	2·6	9	1·03	0·87	14	0	12	29	3	0	0	0	0	28	2·2
		Sept.	29·914	85·4	72·0	78·7	88·4	69·1	76·2	3·6	·736	81	3·6	15	4·23	1·01	17	0	3	25	8	1	0	1	2	20	1·6
		Oct.	29·865	87·2	72·7	80·0	89·1	69·2	77·7	4·6	·781	77	4·0	16	1·01	0·16	3	0	0	31	17	0	0	0	0	16	1·8
		Nov.	29·908	86·7	72·6	79·6	89·5	70·0	77·6	4·0	·755	80	3·5	6	10·92	7·05	5	0	0	15	12	0	0	0	0	23	1·9
		Dec.	29·824	86·4	74·8	80·6	89·3	71·5	78·5	2·7	·889	85	5·2	17	5·22	1·60	1	0	0	8	4	4	12	10	1	33	2·4

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 31st MARCH 1904.

By Dr Buchan, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 60 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N.; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1904.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %.	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
Jan.	29·710	43·5	34·6	39·0	58·8	22·0	39·0	1·7	·205	86	19	3·68	6·8	*
Feb.	29·479	40·6	31·8	36·2	52·8	10·8	35·8	1·5	·183	87	18	3·71	7·1	*
Mar.	29·952	44·4	32·5	38·4	59·5	13·1	38·0	1·9	·192	84	16	2·31	6·4	*

1904.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS.										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
Jan.	37·4	37·9	38·2	40·9	41·2	2	1	3	5	9	17	17	5	3	3·0	5	1
Feb.	35·9	36·9	37·7	39·9	40·9	4	5	10	9	7	8	6	4	5	2·5	2	1
Mar.	37·5	38·4	38·9	39·8	40·3	4	6	11	6	8	10	8	5	4	2·4	1	1

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these results are compared with the averages of 1856–1900, during the same months, they show the following characteristics and differences :—

JANUARY 1904—

Mean Barometric Pressure, 29·710 inches; less than the average of 1856–1900 by 0·086 inch.
Mean Temperature, 39°·0; greater by 1°·8.
Mean Daily Range of Temperature, 8°·9; less by 0°·3.
Mean Humidity, 86 per cent.; less by 1·6.
Rain, Number of Days, 19; greater by 2 days.
Rain, Depth in Inches, 3·68; less by 0·18 inch.
Wind, Mean Force (on Scale of 0–12), 3·0; greater by 0·1.
Wind, Direction of, a 4 days' excess of winds from S., S.W., and W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6 8; greater by 0·1.

FEBRUARY 1904—

Mean Barometric Pressure, 29·479 inches; less than the average of 1856–1900 by 0·371 inch.
Mean Temperature, 36°·2; less by 2°·1.
Mean Daily Range of Temperature 8°·8; less by 1°·4.
Mean Humidity, 87 per cent.; being the average.
Rain, Number of Days, 18; greater by 3 days.
Rain, Depth in Inches, 3·71; greater by 0·66 inch.
Wind, Mean Force (on Scale of 0–12), 2·5; less by 0·4.
Wind, Direction of, a 5 days' excess of winds from an Easterly quarter.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·1; greater by 0·7.

MARCH 1904—

Mean Barometric Pressure, 29·952 inches; greater than the average of 1856–1900 by 0·130 inch.
Mean Temperature, 38°·4; less by 1°·0.
Mean Daily Range of Temperature, 11°·9; less by 0°·2.
Mean Humidity, 84 per cent.; less by 1·0.
Rain, Number of Days, 16; greater by 1 day.
Rain, Depth in Inches, 2·31; less by 0·53 inch.
Wind, Mean Force (on Scale of 0–12), 2·4; less by 0·5.
Wind, Direction of, a 4 days' excess of winds from a S.E. quarter.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·4; greater by 0·1.

JANUARY 1904—

Hence the month of JANUARY 1904 was characterised by a rather low mean barometric pressure; a high mean temperature, with a slightly low mean daily range; a slightly low mean humidity; a mean rainfall, fractionally below the average, but falling on 2 days more than the average number; a considerable excess of winds of average force from a South-Westerly quarter.

The mean barometric pressure was 29·710 inches, or 0·086 inch below the normal. Very low readings were recorded in connection with the passage of a deep disturbance across the North of Scotland on the night of the 13th, and the monthly range was very high, the extremes at Leith at sea-level being 28·525 inches on the morning of the 14th, and 30·679 inches on the evening of the 21st.

The mean temperature was 39°·0, or 1°·8 above the normal, the days being 1°·7 and the nights 2°·0 above their respective averages. The month was the mildest January since 1898, when the mean for the month was as high as 42°·9. Temperature was everywhere above the normal, the excess amounting to fully 2°·0 in the Lothians, Lower Clydesdale, Central Perthshire, and at Braemar. At few stations was the excess less than 1°·0. Low temperatures were recorded from 1st to 6th, and thereafter mild and cold spells alternated, the coldest subsequent days being 12th, 15th and 16th, 25th and 31st. The six days from 18th to 23rd had a mean temperature at places as much as 5°·0 above the normal, the 18th, 19th or 27th being the mildest days of the month. Fort-William reported frost in shade on only 5 days, and Paisley on only 4 days. The absolute maximum was 58°·8 at Loanhead on the 9th, the minimum being 22°·0 at Drumlanrig and Stronvar on 17th and at Wolfelee on 25th.

The mean rainfall was 3·68 inches, or 5 per cent. below the normal. About a dozen places, including Glencarron, Braemar, and Edinburgh, reported an excess, usually small, and nearly one half of the stations recorded amounts within 10 per cent. of their averages. In Central districts there was a slight, and in most Northern districts a decided shortage, Dunrobin and Gordon Castle registering less than half the average. The greater part of the rain fell during the second and third weeks and towards the end of the month. Only four stations reported falls exceeding an inch on any one day of the month, the heaviest daily amounts being 1·56 inch at Greenock on 10th and 1·23 inch at Glencarron on 6th. On Ben Nevis the monthly amount was 21·70 inches, or 3·21 inches above the average of 20 years.

Snow was general on 15th, and in some districts light falls occurred from 10th to 12th or on other days early in the month.

Thunder was reported at Lochbuie on 7th, Lednathie on 10th, Poltalloch on 10th and 15th, Monach on 27th, and Glencarron on 28th and 31st.

Except from 16th to 27th moderate gales were somewhat frequent.

An Aurora was observed at Lairg on 7th and from Ben Nevis on 23rd.

Bright sunshine was generally slightly deficient, but Inverness reported a large excess.

FEBRUARY 1904—

Hence the month of FEBRUARY 1904 was characterised by an abnormally low mean barometric pressure; a low mean temperature, with a low mean daily range; an average mean humidity; a slightly high mean rainfall, falling on 3 days more than the average number; a large excess of winds of moderate force from an Easterly quarter.

The mean barometric pressure was 29·479 inches, being 0·371 inch below the normal, and with the exception of 29·462 inches in 1885, the lowest mean pressure for February since observations were organised in 1856. Pressure was very low during the first three weeks of the month, frequently falling below 29 inches at sea-level. After the 22nd, much higher readings were recorded, the sea-level extremes at Leith being 28·526 inches on the morning of the 13th and 30·311 inches on the evening of the 28th.

The mean temperature was 36°·2, or 2°·1 below the normal, the days being 2°·8 and the nights 1°·4 below their respective averages. The month was thus much colder than January, which had a mean temperature of 39°·0. There was a decided deficiency in all districts, greater in the East than the West, and at few stations less than 1°·5. In most districts but few days had a temperature equal to the average and there was practically no spell of mild weather during the month, though severe frosts were generally of short duration. Highest temperatures were generally recorded on 20th, 21st, or 27th, and lowest on 29th, and at a few places on 19th. At Edinburgh, frost in shade was registered on 15 days and on grass on 22 days. The absolute maximum was 52°·8 at Glasgow on 21st, and the minimum 10°·8 at Braemar on 11th.

The mean rainfall was 3"·71 inches, or 22 per cent. above the average. As a result of the prevailing Easterly winds nearly all Eastern stations had a large excess, amounting to fully 50 per cent. at about a dozen stations. Dundee reported more than twice the average, and Aberdeen an excess of 85 and Perth of 75 per cent., whilst there was an excess of more than 60 per cent. at Dunrobin, Arbroath, and Smeaton. In the West and South-West rainfall was also above the average: in Wigtownshire by 50, in Bute by 30, and at Stornoway by 25 per cent. In Nithsdale, the Clyde area, at Stronvar, and Braemar, and in nearly all parts of Inverness-shire, there was a deficiency, amounting to 48 per cent. at Braemar, 42 at Glencarron, and about 30 at Glasgow. Nearly half the East Coast rainfall was registered during the first eight days of the month, whilst in Western districts the wettest periods were from 12th to 16th and from 19th to 21st. The heaviest daily falls reported were 2·50 inches at Lochbuie on 25th, and 1·65 inch at Greenock on the 19th. On Ben Nevis the monthly amount was 11·41 inches, or 2·03 inches below the average.

The weather was frequently of a very wintry character, moderate snowstorms being general on the 6th, 7th and 18th, less heavy snowfalls of a more local character occurring on several other days.

Early in the month strong Easterly winds caused heavy seas on the East Coast, whilst from 12th to 14th and on 20th and 21st the weather was very stormy.

An Aurora was observed from Ben Nevis on the 8th, and a thunderstorm occurred there and at Fort-William on the night of the 12th.

Bright sunshine was above the average at Fort-Augustus, but was in general very deficient, Glasgow recording less than half the normal.

MARCH 1904—

Hence the month of MARCH 1904 was characterised by a high mean barometric pressure; a rather low mean temperature, with a mean daily range about the average; a slightly low mean humidity; a rather low mean rainfall, but falling on one day more than the average number; a large excess of winds of moderate force from a South-Easterly quarter.

The mean barometric pressure was 29·952 inches, or 0·130 inch above the normal. Pressure at Leith was above 30 inches at sea-level from 1st to 6th, from 9th to 12th, and from 23rd to 27th. Lowest readings were everywhere recorded on the 29th, the extremes at Leith being 30·493 inches on the morning of the 24th, and 29·099 inches on the evening of the 29th, giving a range about equal to the average.

The mean temperature was 38°·4, or 1°·0 below the normal, the days being 1°·1 and the nights 0°·9 below their respective averages. Temperature was just equal to the average at Glencarron, and slightly above at Deerness and Paisley, but at all other stations there was a deficiency, generally between 0°·5 and 1°·5, but in Dumfriesshire about 2°·0. The month opened with low temperatures under the influence of easterly winds, the sheltered thermometer at Edinburgh and Leith failing to reach 40°·0 from 1st to 8th, and the minimum for the month occurring at many places on 1st or 2nd. Severe frosts also occurred on one or two days during the following week, with lowest readings for the month at many places on the 15th. Thereafter temperature was somewhat higher until 30th, the maximum for the month occurring generally on 19th, 20th, or 23rd. The absolute maximum was 59°·5 at Gordon Castle on 19th, and the minimum 13°·1 at Kingussie on 2nd.

The mean rainfall was 2·31 inches, or 19 per cent. below the normal. At Aberdeen, in parts of Forfarshire, at Leith, and in the extreme Southern counties there was a moderate excess, amounting at Cally to 29 per cent. In all other districts there was a deficiency, which was greatest in some parts of Inverness-shire and along the shores of the Moray Firth. Thus at Inverness and Gordon Castle less than 1 inch was recorded, whilst at Glencarron the monthly amount of 2·95 inches was less than two-fifths of the average. A large part of the East Coast rainfall was registered during the first eight days of the month, when easterly winds prevailed, whilst in Western districts the wettest periods were from 16th to 22nd, and from 28th to 31st. The only daily falls of as much as 1 inch were 1·12 inch at Leadhills and 1·08 inch at Cargen, both on 28th. On Ben Nevis the monthly amount was 8·65 inches, or 5·54 inches below the average.

Moderate falls of snow, sleet, and hail were frequent in Eastern districts early in the month, but no gales of more than local importance were reported, though the weather was frequently unsettled and inclement.

A thunderstorm occurred at Cally on 29th.

Bright sunshine was above the average at Inverness, Fort-Augustus, Fort-William, and on Ben Nevis, but deficient elsewhere.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A.	B.										
				Maximum.	Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.		°	°	°	°	°	°	°	°		inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	Jan.	29·297	...	...	...	...	...	...	...	...	40·9	...	...	...
		Feb.	29·227	...	...	...	...	...	...	...	...	36·9	...	...	...
		Mar.	29·634	...	...	...	...	...	...	...	...	39·3	...	...	...
LERWICK, (Shetland.) G. Allison, Harbour Master.	30	Jan.	29·522	44·8	38·1	41·2	...	49·0	22	30·0	17	42·3	1·5	·238	89
		Feb.	29·442	40·6	33·8	37·2	...	48·0	1, 13	39·0	19	37·2	1·7	·188	85
		Mar.	29·867	42·9	36·7	39·8	...	48·0	19, 20	30·0	15	40·1	1·8	·212	85
DEERNESS, (Orkney.) M. Spence, Schoolhouse.	172	Jan.	29·405	43·5	37·3	40·4	+1·7	48·3	18	31·0	16	40·8	1·8	·217	86
		Feb.	29·264	40·3	34·4	37·4	−1·0	43·4	13	30·4	1	37·5	1·9	·188	84
		Mar.	29·711	42·4	35·4	38·9	+0·3	49·5	19	29·0	15	39·0	1·8	·203	86
KIRKWALL, (Orkney.) J. S. Begg, S.S.C.	30	Jan.	29·564	44·7	37·7	41·2	+1·8	49·0	18, 22	31·0	17	41·2	1·9	·219	85
		Feb.	29·428	41·1	34·7	37·9	−1·1	45·0	1, 14	29·5	17, 19	37·6	1·6	·194	86
		Mar.	29·868	43·2	35·5	39·3	−0·3	52·0	20	27·0	5	40·0	1·8	·211	86
DUNROBIN, (Sutherland.) D. Melville, Gardener, Dunrobin Castle.	16	Jan.	29·600	43·4	32·9	38·1	−0·2	52·0	18, 22	26·5	25	38·7	2·0	·197	85
		Feb.	29·435	41·3	32·1	36·7	−1·8	49·5	27	24·0	19	36·6	1·8	·183	85
		Mar.	29·905	45·1	33·0	39·0	−1·2	55·0	19	25·0	1	39·1	2·3	·194	82
LAIRG, (Sutherland.) Rev. John K. Maclean.	390	Jan.	29·160	41·6	31·5	36·6	+0·3	47·0	18	23·0	6	36·4	1·3	·191	89
		Feb.	29·000	40·0	29·1	34·6	−1·6	45·0	18, 23	19·0	8, 19	33·6	1·0	·172	89
		Mar.	...	...	...	...	...	...	...	...	...	...	...	...	...
GLENCARRON, (Ross.) D. D. Munro.	504	Jan.	29·080	43·2	33·8	38·5	+1·3	51·0	27	26·0	1	38·8	1·7	·200	86
		Feb.	28·900	39·9	30·3	35·1	−2·1	49·8	23	20·5	19	34·8	1·6	·170	84
		Mar.	29·357	44·5	32·0	38·2	0·0	51·9	17	22·0	1	38·1	2·3	·186	80
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	Jan.	29·406	...	...	...	...	...	...	...	...	43·0	...	...	..
		Feb.	29·238	...	...	...	...	...	...	...	...	39·7	...	...	..
		Mar.	29·707	...	...	...	...	...	...	...	...	40·9	...	...	...
KINGUSSIE, (Inverness.) Dr Walter de Watteville.	828	Jan.	28·762	41·5	...	...	...	49·8	20	...	...	37·0	1·6	·189	86
		Feb.	28·558	38·8	28·1	33·4	−1·8	47·0	27	19·0	19	33·2	1·4	·161	84
		Mar.	29·025	43·4	28·6	36·0	−0·9	54·2	23	13·1	2	36·1	2·5	·167	78
INVERNESS, (Inverness.) Thos. Wallace, High School.	114	Jan.	29·518	43·5	36·1	39·8	+1·4	51·8	18	27·0	2	40·0	1·9	·206	85
		Feb.	29·328	40·7	32·5	36·6	−2·3	47·0	20, 27	25·4	8	36·6	1·6	·186	86
		Mar.	29·795	45·7	33·9	39·8	−1·0	54·5	19	23·8	2	39·1	2·1	·198	83
FORT AUGUSTUS, (Inverness.) Rev. Cyril von Dieckhoff, St Benedict's Priory.	73	Jan.	29·586	43·5	34·5	39·0	+1·0	50·0	18	23·4	16	39·5	1·8	·207	86
		Feb.	29·375	41·5	31·7	36·6	−2·0	48·0	19, 20	22·4	10	36·5	1·6	·186	86
		Mar.	29·848	45·9	31·7	38·8	−1·1	54·1	23	18·6	2	38·5	2·1	·192	83
FORT WILLIAM, (Inverness.) R. T. Omond, F.R.S.E., and Angus Rankin.	42	Jan.	29·634	44·8	36·6	40·7	+1·6	52·0	27	26·7	5	40·9	1·9	·216	85
		Feb.	29·415	41·9	32·7	37·3	−1·8	49·0	23	24·5	19	37·4	2·1	·183	82
		Mar.	29·896	46·0	32·9	39·4	−1·0	57·0	25	22·5	2	38·9	2·4	·191	82
GORDON CASTLE, (Banff.) C. Webster, Gardener to the Duke of Richmond and Gordon.	107	Jan.	29·527	44·7	34·8	39·7	+1·9	54·0	18	28·5	5	39·8	1·7	·197	80
		Feb.	29·346	40·4	31·2	35·8	−2·5	48·5	20	26·5	17, 29	35·9	1·9	·176	83
		Mar.	29·821	45·7	32·8	39·3	−0·7	59·5	19	23·6	1	39·2	2·8	·186	78
BRAEMAR, (Aberdeen.) James Aitken, Banker.	1114	Jan.	28·472	40·4	31·9	36·1	+2·4	49·2	18	25·0	31	36·4	1·7	·184	85
		Feb.	28·266	35·6	25·7	30·6	−3·7	42·2	27	10·8	11	31·2	1·0	·151	85
		Mar.	28·722	41·2	28·7	35·0	−0·4	52·3	24	18·2	2	34·3	1·9	·161	81
LOANHEAD, (Aberdeen.) Alex. Farquharson.	747	Jan.	28·854	42·9	32·9	37·9	+2·1	58·8	9	23·8	25	38·0	1·5	·199	87
		Feb.	28·650	37·7	28·2	32·9	−3·2	45·3	20	20·1	17	33·6	1·4	·161	81
		Mar.	29·117	43·6	30·3	36·9	−0·5	53·8	19	22·9	15	36·5	2·0	·179	83

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
8·9	26	...	...	...	...	0	8	0	0	22	1	0	6	1	1	8	19	18	0	14	12	5·6
8·2	19	...	...	...	...	12	0	0	0	16	0	2	8	5	7	11	16	7	2	4	3	4·5
8·1	15	...	...	...	...	5	0	0	0	15	0	2	6	1	8	7	26	8	6	5	0	4·8
...	25	5·43	...	0·50	12, 31	1	0	0	...	...	0	7	8	2	0	1	20	24	8	4	0	4·8
...	20	3·85	...	0·56	15	5	0	0	...	...	0	6	6	2	10	9	23	4	0	3	1	4·4
...	17	3·12	...	0·71	29	4	2	0	1	13	0	2	3	1	3	18	18	8	5	6	0	3·5
6·6	15	2·44	– 0·60	0·45	14	2	2	0	0	8	0	8	0	0	2	5	23	18	9	5	0	4·1
6·7	18	2·62	– 0·16	0·32	8, 12	6	1	0	1	13	1	6	3	6	11	15	14	3	3	3	0	4·2
6·7	15	2·15	– 0·45	0·40	21	4	2	0	1	13	0	2	3	1	8	18	18	8	5	6	0	3·5
...	17	2·07	– 1·91	0·60	11	...	...	...	...	...	...	3	4	0	2	14	16	4	18	4	0	3·0
...	16	3·39	+ 0·04	0·66	16	...	...	...	...	...	...	3	4	6	18	4	10	6	2	4	4	4·0
...	18	3·38	+ 0·03	0·60	22	...	...	...	...	...	...	2	4	0	6	10	20	0	18	4	0	3·6
...	13	1·18	– 1·49	0·20	18	2	0	0	...	...	0	...	9	3	9	1	3	1	17	19	0	...
...	16	3·78	+ 1·45	0·87	21	6	0	0	...	...	0	...	9	6	15	8	4	3	6	7	0	...
...	11	1·53	– 0·82	0·58	22	3	2	0	...	...	0	...	8	0	12	12	6	6	11	7	0	...
6·2	20	2·74	– 0·80	0·85	12	5	0	0	1	8	2	6	2	0	1	14	5	5	18	7	10	3·0
7·1	20	4·74	+ 1·83	0·94	11	13	0	0	5	16	0	0	7	2	23	9	1	0	4	4	8	2·7
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7·6	25	10·67	+ 1·01	1·23	6	...	...	2	1	20	...	0	8	0	5	0	2	0	45	0	2	4·0
6·7	22	4·34	– 3·14	1·39	19	...	...	0	3	14	...	0	18	0	19	0	1	0	19	0	1	3·8
5·8	18	2·95	– 4·75	0·64	21	...	...	0	5	11	...	0	18	0	15	0	0	0	33	0	1	3·8
8·0	23	5·29	– 0·02	0·85	7	8	1	1	0	16	3	13	8	0	1	7	10	19	17	5	0	6·5
7·0	19	3·41	– 0·62	0·56	24	4	1	0	1	14	0	2	7	1	14	9	17	3	4	3	0	5·1
6·8	13	2·25	– 1·30	0·60	28	2	0	0	1	13	1	0	5	2	6	9	22	8	6	4	0	4·8
7·3	14	2·30	+ 0·05	0·35	7	...	...	0	0	17	...	...	...	...	...	...	...	...	...	...	...	...
6·7	13	1·95	0·00	0·58	13	...	...	0	4	8	...	...	...	...	...	...	...	...	...	...	...	...
6·6	13	1·14	– 0·72	0·22	22	...	...	0	3	11	...	...	...	...	...	...	...	...	...	...	...	...
7·0	17	2·39	– 0·06	0·48	13	5	0	0	0	10	3	5	0	0	2	3	2	19	33	1	2	1·6
7·2	16	2·43	+ 0·46	0·38	13	10	4	0	4	16	7	1	5	1	16	0	2	17	14	3	0	0·8
6·3	8	0·71	– 1·18	0·26	22	4	0	0	2	8	6	7	2	3	10	3	1	26	13	3	1	1·1
7·5	20	5·81	+ 0·56	0·81	9	5	0	0	1	14	1	2	0	1	1	1	34	3	9	0	13	2·6
6·9	18	2·99	– 0·78	0·81	13	8	0	0	1	16	1	1	4	13	0	1	12	14	2	1	11	2·8
5·7	14	2·31	– 0·75	0·56	31	5	0	0	3	8	0	3	2	9	2	1	23	6	0	1	18	2·4
8·7	25	7·64	– 1·04	0·93	6	5	3	0	1	25	2	2	1	1	1	11	4	29	7	1	7	1·4
7·9	19	5·93	– 1·42	1·39	19	6	0	1	0	15	1	0	5	0	4	10	4	16	2	0	17	0·8
5·9	18	5·25	– 0·47	0·73	31	4	1	0	4	13	0	0	7	8	0	5	3	23	3	0	13	1·0
5·9	9	0·77	– 1·30	0·22	13	...	...	...	2	8	...	...	0	0	0	12	25	20	2	3	0	...
7·6	18	2·83	+ 0·86	0·50	21	...	...	...	0	12	...	...	0	8	3	26	6	12	1	2	0	...
5·9	11	0·78	– 1·40	0·19	8, 22	...	...	...	2	7	...	...	0	3	2	23	7	14	6	7	0	...
7·6	22	3·65	+ 0·62	0·56	29	5	0	0	0	15	0	3	0	0	1	5	1	46	1	8	0	2·2
7·8	19	1·44	– 1·35	0·34	12	13	0	0	0	17	3	0	2	10	7	9	5	22	0	3	0	1·0
6·3	14	1·35	– 1·09	0·32	22	5	0	0	0	12	1	0	8	5	0	7	8	28	1	5	0	1·3
7·4	17	1·30	– 0·70	0·22	14	...	0	0	5	13	0	1	2	2	4	8	2	10	7	14	13	2·2
6·9	19	3·79	+ 1·70	0·80	1	15	0	0	3	15	0	0	0	4	4	11	3	2	2	16	16	0 9
6·4	16	1·70	– 0·52	0·51	22	8	0	0	6	13	0	1	0	5	4	15	1	2	5	10	20	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904. Months.	BAROMETER. Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	AIR TEMPERATURE. Mean of A. Maximum.	Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
TILLYPRONIE, (Aberdeen.) **Robt. Littlejohn**, Gardener to Sir John F. Clark, Bt.	1120	Jan.	28·457	41·9	31·2	36·5	+1·8	57·0	23	24·3	25	36·4	1·5	·187	87
		Feb.	28·257	36·5	27·9	32·2	−2·9	45·1	20	19·1	19	31·9	1·0	·154	85
		Mar.	28·723	41·7	28·4	35·0	−1·4	50·5	19, 20	20·1	15	33·8	1·3	·166	86
ABERDEEN, (Aberdeen.) **Peter Harper**, Superintendent, Duthie Park.	44	Jan.	29·660	42·9	33·7	38·3	+1·3	50·6	18	27·4	12	37·9	1·9	·191	84
		Feb.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Mar.	29·900	45·0	33·5	39·3	−0·7	52·0	20	22·7	6	39·0	2·0	·199	84
PETERHEAD, (Aberdeen.) Dr W. H. **M'Walter**, H.M. Prison.	100	Jan.	29·560	43·8	35·3	39·5	+0·6	50·0	18	29·1	12	38·6	1·4	·207	88
		Feb.	29·375	40·5	33·5	37·0	−1·9	50·0	19	29·1	29	37·7	1·8	·192	84
		Mar.	29·836	44·0	34·2	39·1	−1·3	49·8	13	26·0	15	39·3	2·1	·200	84
CRATHES, (Kincardine.) J. **Smith**, Pinewood.	145	Jan.	29·531	43·8	32·8	38·3	...	52·0	18	24·0	24	37·7	1·9	·190	83
		Feb.	29·324	39·6	30·4	35·0	...	47·0	20	23·5	29	35·0	1·2	·180	88
		Mar.	29·796	44·1	31·6	37·8	...	53·0	19	24·5	15	37·2	1·8	·187	84
MONTROSE, (Forfar.) (Royal Asylum), Dr **John G. Havelock**.	200	Jan.	29·498	42·3	34·7	38·5	+1·2	49·0	18	30·0	12	38·4	2·0	·193	83
		Feb.	29·270	40·3	31·7	36·0	−1·7	45·0	13	25·0	19	35·6	1·4	·183	87
		Mar.	29·732	43·0	32·8	37·9	−1·4	50·0	13, 20	24·0	15	37·2	1·8	·187	84
ARBROATH, (Forfar.) **James Campbell**, "For the Natural History Assoc. of Arbroath."	68	Jan.	29·654	43·0	35·4	39·2	+1·5	49·0	18	30·0	12	39·3	1·5	·211	88
		Feb.	29·412	41·2	33·0	37·1	−1·5	47·0	27	25·0	19, 29	36·8	1·6	·188	87
		Mar.	29·890	44·4	34·1	39·2	−1·3	51·0	21, 22	28·0	15	39·2	2·0	·201	84
DUNDEE, Eastern Necropolis, (Forfar.) J. **Carnochan**, Curator.	164	Jan.	29·543	44·7	34·1	39·4	+2·5	52·6	18	29·0	16	38·3	1·5	·201	87
		Feb.	29·314	41·8	30·9	36·3	−1·6	48·1	20	24·6	29	35·3	1·6	·176	85
		Mar.	29·788	44·7	32·4	38·6	−1·2	52·2	20	27·9	31	37·8	2·1	·188	83
DUNDEE, Harbour, (Forfar.) J. **Thompson**, Jr., Harbour Trust.	20	Jan.	29·709	45·1	35·1	40·1	+2·6	50·8	18	30·2	16	40·5	1·3	·206	82
		Feb.	29·480	42·7	32·4	37·5	−2·1	48·8	18	27·2	29	37·0	1·9	·184	84
		Mar.	29·946	46·2	34·6	40·4	−0·9	52·8	20	28·5	15	39·8	2·6	·195	82
LEDNATHIE, (Forfar.) **Wm. Morrison**, Gardener to Patrick Stormonth Darling.	720	Jan.	28·913	41·2	31·6	36·4	+1·5	51·0	18	23·8	12	36·8	1·4	·192	87
		Feb.	28·681	37·3	27·5	32·4	−2·7	46·0	27	17·8	29	32·5	1·1	·166	86
		Mar.	29·157	41·5	29·8	35·6	−1·6	52·0	23	21·5	15	35·6	1·8	·176	84
BALRUDDERY, (Forfar.) R. **Cairns**, Gardener to J. Martin White.	280	Jan.	29·413	43·1	33·5	38·3	+1·4	50·0	23	27·0	17	37·8	1·2	·204	90
		Feb.	29·182	40·1	30·2	35·1	−2·9	45·0	27	24·0	18, 23	34·9	1·3	·177	88
		Mar.	29·655	46·0	32·0	39·0	−1·1	55·0	27	25·0	15	37·8	2·2	·186	82
PERTH, (Perth.) **John Leslie**, Gardener to Henry Coats.	105	Jan.	29·605	44·1	33·6	38·7	+1·7	51·5	18	28·0	16, 25	39·0	1·8	·203	86
		Feb.	29·377	40·8	30·2	35·5	−2·8	47·5	20	22·0	29	35·2	1·6	·175	85
		Mar.	29·852	44·9	31·6	38·2	−1·6	54·5	19	22·5	15	37·2	2·0	·184	83
STRONVAR, (Perth.) D. L. **Mackintosh**, Gardener to James Carnegie.	422	Jan.	29·246	43·3	32·7	38·0	+2·4	52·0	18	22·0	17	37·4	1·8	·189	86
		Feb.	29·020	39·4	28·9	34·2	−2·7	48·0	16	21·0	19	34·2	1·2	·174	87
		Mar.	29·484	43·4	31·5	37·5	−1·3	56·0	23	16·0	6	36·1	1·7	·181	85
OCHTERTYRE, (Perth.) **George Croucher**, Gardener to Sir Patrick Keith Murray, Bart.	333	Jan.	29·347	43·5	33·8	38·6	+2·0	54·0	18	28·0	12	38·1	1·5	·200	87
		Feb.	29·112	41·2	30·4	35·8	−1·8	50·0	22	22·0	29	34·3	1·3	·172	86
		Mar.	29·590	45·1	31·0	38·0	−1·6	58·0	23	23·0	15	36·8	1·8	·184	85
CLATHICK, (Perth.) **Alex. Hendry**.	300	Jan.	29·382	43·8	33·8	38·8	...	55·5	18	28·0	12	38·6	1·7	·201	87
		Feb.	29·154	40·5	30·6	35·5	...	48·5	20	22·0	29	34·7	1·3	·176	87
		Mar.	29·622	44·5	31·3	37·9	...	57·0	23	23·0	15	37·4	2·0	·183	83
CUPAR, (Fife.) Dr **Turnbull**, Fife and Kinross District Asylum.	210	Jan.	29·497	44·9	33·8	39·4	+2·4	52·0	19	29·0	2	38·9	2·3	·193	83
		Feb.	29·252	41·3	31·1	36·2	−1·7	49·0	20	23·0	29	36·4	1·9	·180	84
		Mar.	29·730	44·5	32·7	38·6	−1·2	55·0	20	25·0	15	38·3	2·1	·191	83

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
6·9	19	0·96	− 0·94	0·15	15	5	0	0	0	10	2	3	5	2	0	23	0	13	0	19	0	3·8
7·6	20	3·18	+ 1·15	0·49	2	19	0	0	0	16	4	1	2	10	0	26	0	4	0	16	0	2·6
6·6	17	1·86	− 0·41	0·47	8	12	0	0	2	12	1	1	0	7	0	23	0	17	0	15	0	2·4
5·9	20	2·29	− 0·11	0·32	30	3	0	0	2	6	3	4	2	0	0	4	11	35	8	2	0	3·0
...	18	4·05	+ 1·84	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6·6	14	2·55	+ 0·26	0·92	29	5	0	0	3	10	0	0	2	5	3	14	14	11	8	5	0	2·8
...	15	0·66	− 1·24	...	...	3	0	0	...	...	0	6	0	0	0	5	36	7	2	8	4	4·8
...	16	1·04	− 0·61	...	...	3	1	0	...	...	0	2	4	1	8	6	19	8	1	6	5	2·6
...	16	1·36	− 0·32	...	...	5	1	0	...	...	0	1	4	0	7	9	19	10	1	8	4	3·4
6·0	16	2·48	...	0·48	31	1	0	0	5	11	3	4	0	1	1	10	17	12	10	4	7	2·8
7·2	18	5·39	...	0·98	1	12	3	0	5	15	0	1	1	5	5	11	7	8	11	10	5	2·9
6·5	16	3·19	...	0·79	28	7	1	0	5	13	0	0	3	2	5	11	8	8	11	10	4	2·9
...	14	2·19	+ 0·01	0·36	31	2	0	0	...	...	0	3	1	0	1	5	24	11	13	7	0	3·9
...	18	3·18	+ 1·13	0·44	10	11	0	0	...	...	0	0	6	7	7	4	16	4	10	4	0	3·7
...	15	2·11	+ 0·28	0·38	8	5	0	0	...	...	1	0	4	5	10	10	9	6	8	10	0	3·4
5·7	15	1·84	− 0·39	0·38	31	2	0	0	4	7	7	1	3	0	2	6	8	12	26	5	0	2·4
6·7	17	3·00	+ 1·19	0·72	6	16	4	0	5	14	10	0	12	4	10	7	8	3	11	2	1	2·4
6·1	15	1·04	− 0·73	0·33	28	8	7	0	7	14	2	1	4	4	14	6	5	12	8	9	0	2·2
8·3	17	1·85	− 0·49	0·37	31	3	0	0	0	22	3	2	2	3	1	8	0	24	20	4	0	2·3
8·1	20	4·25	+ 2·19	0·91	6	12	1	0	0	21	0	0	0	9	9	16	0	8	5	11	0	1·8
7·9	18	1·79	− 0·07	0·34	28	7	1	0	0	19	1	0	0	8	5	16	0	17	6	10	0	2·2
...	19	1·44	...	0·24	12	0	0	0	...	...	4	3	1	0	4	4	1	21	28	3	0	3·2
...	22	5·54	...	0·92	6	5	0	0	...	...	1	1	0	1	10	17	5	7	15	3	0	3·2
...	18	1·73	...	0·33	28	4	0	0	...	...	4	0	2	5	10	11	2	13	17	2	0	3·2
7·1	17	3·25	− 0·65	0·71	7	4	0	1	2	12	4	4	3	2	3	5	1	15	15	18	0	3·5
7·1	18	4·89	+ 1·72	0·76	2, 12	14	0	0	2	15	0	1	5	9	8	9	5	5	6	8	3	2·5
6·7	20	2·86	+ 0·37	0·86	28	12	4	0	4	13	4	1	6	9	8	7	5	10	7	10	0	2·8
6·0	18	1·68	...	0·33	13	1	0	0	1	6	1	1	1	1	1	7	1	20	21	10	0	3·5
6·3	18	4·19	...	0·54	7	9	0	0	1	8	0	2	13	8	1	10	2	8	2	14	0	3·3
5·5	16	1·83	...	0·38	7	4	0	0	1	5	0	2	2	14	6	9	1	9	4	17	0	3·5
6·5	...	1·49	− 1·61	...	...	...	...	...	5	15	1	1	2	0	0	11	7	15	15	2	10	1·8
7·1	...	4·46	+ 1·89	...	...	...	...	...	5	17	1	0	2	1	17	14	2	6	4	0	12	1·5
6·4	...	1·71	− 0·60	...	...	...	...	...	6	12	1	0	3	3	18	5	5	11	4	1	12	1·0
4·8	19	8·40	− 1·03	1·11	26	1	0	0	2	5	0	3	0	2	2	8	0	28	14	8	0	3·8
5·0	22	6·32	− 0·75	1·25	12	11	0	0	3	4	0	1	4	20	0	6	0	18	6	4	0	4·1
5·0	20	4·82	− 0·98	0·87	28	4	0	0	3	5	1	2	4	18	8	4	0	6	10	12	0	4·2
8·3	22	4·37	− 0·38	0·78	9	...	...	...	0	21	...	0	1	0	16	0	3	7	34	0	1	1·3
8·2	21	4·47	+ 1·01	0·85	12	...	...	...	0	19	...	1	1	4	25	4	1	7	11	2	3	1·4
6·9	20	2·28	− 0·48	0·88	28, 30	...	...	...	5	15	...	0	1	5	26	2	0	5	20	1	2	1·3
7·4	17	4·14	...	0·62	9	4	0	0	2	12	0	2	6	1	9	3	6	6	23	8	0	3·4
6·6	16	4·27	...	0·95	12	9	0	0	1	14	0	1	8	7	29	1	3	2	5	3	0	3·2
6·6	17	2·23	...	0·48	31	3	0	0	6	15	0	1	5	4	24	8	1	5	13	2	0	3·1
5·2	13	1·26	− 1·17	0·32	13	...	...	...	0	5	...	0	4	0	9	0	0	6	30	11	2	2·6
6·6	19	3·17	+ 1·19	0·62	7	...	...	...	0	9	...	0	4	2	24	1	1	2	9	5	10	2·8
5·5	14	0·98	− 0·88	0·24	7	...	...	...	0	6	...	0	9	2	16	1	1	4	18	9	2	2·4

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
DUNFERMLINE, (Fife.)	225	Jan.	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr J. Macdonald,		Feb.	...	...	...	...	...	...	...	...	...	...	...	...	...
High School.		Mar.	29·712	45·3	33·1	39·2	...	53·4	20	23·2	1	38·6	2·3	·190	81
BUCHLYVIE, (Stirling.)	125	Jan.	29·592	43·3	34·5	38·9	+1·7	50·0	18	26·0	25	39·2	1·5	·210	88
Rev. John A. Macdonald.		Feb.	29·346	39·9	31·9	35·9	−1·9	47·0	20	25·0	29	35·2	1·3	·181	88
		Mar.	29·814	44·5	32·7	38·6	−1·0	54·0	23	26·0	1, 31	37·7	1·9	·190	83
HELENSBURGH,	18	Jan.	...	44·3	35·6	40·0	+1·1	50·0	19	27·5	31	40·2	...	...	...
(Dumbarton.)		Feb.	...	42·4	31·7	37·0	−1·7	49·0	20	23·4	19	36·4	1·7	·184	85
J. R. Wilson, Waterworks.		Mar.	...	45·8	32·5	39·2	−1·2	53·9	24	24·1	10	39·0	2·4	·192	81
DUMBARTON, (Dumbarton.)	27	Jan.	29·700	45·7	36·6	41·2	+2·1	51·1	19	31·0	2, 31	41·2	1·7	·223	87
William Denny and		Feb.	29·447	43·1	32·9	38·0	−1·2	48·9	23	27·1	29	37·3	1·5	·198	87
Brothers.		Mar.	29·930	45·8	33·2	39·5	−1·5	53·9	24	26·3	11	38·8	2·0	·197	84
LOCHBUIE, (Argyll.)	20	Jan.	29·663	45·7	38·0	41·9	+1·3	49·8	18	31·0	22	42·0	2·2	·221	84
J. T. Mannary, Gardener to		Feb.	29·444	42·9	35·0	38·9	−0·9	48·5	20	28·5	19	38·0	1·8	·194	85
the Maclaine of Lochbuie.		Mar.	29·928	44·9	35·4	40·2	−0·8	49·9	22	25·0	15	40·8	1·8	·217	86
AIRDS, (Argyll.)	15	Jan.	29·674	46·3	37·1	41·7	+1·2	51·0	27	30·0	15	42·1	1·8	·230	86
Colonel Macfie, C.B., and		Feb.	29·446	43·5	34·6	39·1	−1·0	49·0	14, 20	29·0	19	39·2	2·0	·201	84
Alexander M'Lachlan.		Mar.	29·926	45·9	35·0	40·4	−0·7	51·0	19	28·0	1, 15	41·0	2·3	·210	82
POLTALLOCH, Lochgilphead	185	Jan.	29·564	45·1	37·0	41·1	+2·1	51·0	27	30·0	17, 31	40·0	1·5	·217	88
(Argyll.)		Feb.	29·314	42·7	32·8	37·8	−1·2	49·0	20, 23	25·0	18	37·1	1·8	·186	84
D. S. Melville, Gardener.		Mar.	29·791	46·6	33·2	39·9	−0·4	55·0	20	24·0	15	39·3	1·8	·206	86
ROTHESAY, (Isle of Bute.)	116	Jan.	29·606	44·5	36·6	40·5	+1·3	50·0	18	28·5	16	40·3	1·4	·221	89
James Kay,		Feb.	29·348	42·6	34·1	38·3	−1·6	48·0	19, 20	27·5	19	36·8	1·4	·192	89
Barone Cottage.		Mar.	29·831	45·7	34·0	39·8	−0·8	57·5	23	26·0	15	37·9	1·9	·191	84
GREENOCK, (Renfrew.)	238	Jan.	29·469	44·3	36·3	40·3	+1·7	50·2	19, 27	29·4	3	40·7	1·9	·215	85
Daniel Macalister, C.E.,		Feb.	29·221	41·9	32·5	37·2	−1·5	48·2	20	24·7	29	37·2	1·6	·191	86
Waterworks.		Mar.	29·696	44·0	33·0	38·5	−1·6	57·0	24	24·9	1	39·3	1·9	·204	85
PAISLEY, (Renfrew.)	107	Jan.	29·611	44·5	37·2	40·8	+2·0	51·5	19	30·2	1	40·6	1·8	·216	86
Donald Maclean,		Feb.	29·356	42·5	33·9	38·2	−0·6	49·0	27	25·3	29	37·7	1·9	·190	83
The Coats Observatory.		Mar.	29·834	46·1	35·1	40·6	+0·6	58·7	19	28·2	1	39·3	2·2	·198	83
BOWHILL, (Ayr.)	978	Jan.	28·681	41·9	30·6	36·2	+1·1	47·0	27	26·0	1, 2	36·9	1·2	·196	90
Alexander Gillespie, C.E.		Feb.	28·422	39·3	29·7	34·5	−0·7	47·0	21	28·0	29	33·9	1·0	·175	89
		Mar.	28·887	41·0	29·5	35·3	−0·8	49·0	20	19·0	1	35·6	1·4	·183	86
KILMARNOCK, (Ayr.)	74	Jan.	29·652	44·7	35·9	40·3	...	50·0	18	28·8	2	40·0	1·5	·217	88
Glenfield & Kennedy, Ltd.		Feb.	29·403	41·9	32·8	37·4	...	49·5	21	24·5	18, 19	36·9	1·7	·187	86
		Mar.	29·870	45·4	32·3	38·8	...	53·0	19, 20	23·5	10	38·5	1·7	·199	86
GLASGOW, Belvidere Hosp.,	54	Jan.	29·668	45·5	37·6	41·5	+2·6	52·6	18	30·8	16	41·1	1·7	·222	86
(Lanark.)		Feb.	29·422	42·8	34·1	38·4	−1·0	52·8	21	25·5	29	37·5	1·5	·195	87
Dr John Brownlee.		Mar.	29·897	46·3	34·7	40·5	−0·4	55·2	19	25·2	11	39·0	1·7	·205	86
GLASGOW, Observatory,	184	Jan.	29·534	43·6	37·3	40·5	+2·1	50·1	18	31·3	2	39·9	1·5	·216	88
(Lanark.)		Feb.	29·281	40·9	34·1	37·5	−1·5	47·8	21	26·3	29	36·9	1·5	·191	88
Prof. Becker, F.R.S.E.		Mar.	29·754	43·6	34·7	39·1	−1·2	53·3	19	29·2	1	38·5	1·9	·196	85
BOTHWELL, (Lanark.)	...	Jan.	...	43·7	35·4	39·5	...	50·4	18	27·0	2	39·4	1·6	·210	87
Dr John T. Wilson.		Feb.	...	41·0	31·9	36·4	...	50·0	21	22·0	29	35·6	1·1	·189	90
		Mar.	...	44·9	31·9	38·4	...	53·6	19	24·0	10	37·2	1·5	·193	87

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
				Most in a day.																		
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Amount.	Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7·5	16	1·24	...	0·28	20	3	0	0	1	15	3	0	6	7	16	0	7	6	15	3	2	1·8
5·2	26	4·58	−1·09	0·89	7	3	0	0	3	4	4	4	0	0	3	5	2	19	27	5	1	3·0
6·5	21	4·85	+0·17	0·62	12	10	2	0	0	11	4	3	0	0	18	8	5	7	9	6	5	2·0
5·8	22	2·96	+0·51	0·53	21	6	0	0	5	10	4	0	2	0	20	3	1	11	11	11	8	2·2
...	23	4·84	−0·48	0·78	9	...	...	...	...	...	...	...	0	6	10	2	4	8	20	12	0	...
...	15	4·84	+0·82	1·00	19	...	...	...	...	...	...	...	6	10	22	10	0	2	4	4	0	...
...	19	2·47	−0·93	0·37	31	...	...	...	...	...	...	...	0	8	30	4	4	0	4	12	0	...
...	23	5·02	−0·35	0·72	10	...	...	...	...	...	...	...	0	2	4	10	10	2	4	10	20	...
...	16	3·56	−0·67	0·62	21	...	...	...	...	...	...	...	2	0	10	10	2	0	2	2	30	...
...	16	2·44	−0·97	0·47	28	...	...	...	...	...	...	...	0	4	6	8	6	4	2	6	26	...
7·4	25	7·84	...	0·60	7, 15	4	3	1	1	15	0	5	4	4	8	0	10	24	8	4	0	3·5
8·1	21	11·25	...	2·50	25	5	1	0	2	19	2	4	8	16	12	10	2	8	2	0	0	3·0
6·6	14	5·03	...	0·32	28	2	0	0	5	13	2	2	2	10	20	0	8	10	2	2	8	2·4
...	18	10·70	...	...	...	...	...	...	...	...	...	...	3	0	3	4	14	9	27	2	0	...
...	18	5·05	...	...	...	...	...	...	...	...	...	...	6	1	20	6	14	2	9	0	0	2·4
...	16	2·83	...	...	...	...	...	...	...	...	...	...	3	0	28	7	17	4	8	0	0	2·3
8·3	22	5·16	−0·11	0·58	17	3	2	1	0	18	2	1	4	0	0	5	2	14	17	2	18	2·8
8·4	14	3·54	−0·52	0·89	19	4	0	0	0	20	0	1	3	2	4	10	7	8	2	2	20	2·4
6·2	17	2·25	−1·39	0·42	27	2	1	0	4	12	0	0	1	3	4	8	6	4	7	1	28	2·0
7·8	24	4·98	+0·04	0·46	29	0	0	0	1	19	0	2	1	0	6	5	11	10	17	4	8	2·0
8·2	18	4·74	+1·09	0·96	24	3	0	0	2	22	0	1	1	6	13	8	5	4	7	2	12	1·4
7·0	16	2·48	−0·82	0·34	31	4	0	0	4	14	0	0	3	15	7	5	7	8	7	2	8	1·9
8·0	24	7·10	−0·80	1·56	10	1	1	0	0	16	0	3	0	0	2	8	0	19	24	8	1	3·2
8·7	17	5·95	−0·32	1·65	19	5	0	0	0	17	0	2	0	5	10	18	0	8	7	8	2	2·6
7·2	17	3·53	−0·96	0·55	21	2	0	0	0	13	0	0	0	6	12	9	0	13	7	15	0	2·8
7·5	23	4·85	+0·12	0·70	10	4	3	0	2	18	5	3	1	1	4	3	20	1	24	4	4	2·7
8·0	17	2·90	−0·71	0·76	19	5	0	0	0	21	12	2	5	6	10	8	7	6	6	4	6	1·7
6·8	17	1·93	−0·63	0·36	20	2	2	0	5	17	6	0	2	8	9	4	8	6	9	5	11	1·8
7·4	21	3·17	...	0·46	30	...	...	...	0	7	...	...	4	0	0	7	18	18	9	6	0	...
7·6	18	3·96	...	1·28	20	...	...	...	0	6	...	...	6	3	8	8	20	6	5	2	0	...
6·9	16	3·25	...	0·78	21	...	...	...	0	13	...	...	2	6	13	6	17	12	4	2	0	...
7·0	22	3·83	...	0·75	13	0	1	0	0	7	0	0	0	2	5	6	12	22	15	0	0	3·4
6·1	15	2·63	...	0·69	21	0	0	0	0	4	0	0	0	0	20	9	10	13	2	4	0	1·3
5·2	16	1·89	...	0·56	20	2	0	0	0	3	0	1	0	5	24	2	8	14	6	3	0	2·6
...	17	3·77	+0·17	0·68	10	...	...	...	...	...	...	...	1	7	6	3	7	8	5	14	11	1·9
6·0	14	1·78	−1·09	0·43	21	...	...	...	...	...	...	...	8	1	17	3	5	1	3	9	11	1·7
6·9	17	1·49	−0·85	0·43	20	...	...	...	...	...	...	...	1	11	20	2	1	9	5	5	8	1·0
8·6	20	3·47	−0·16	0·56	10	3	1	0	0	20	0	0	0	0	4	2	9	11	21	2	18	1·2
9·0	17	2·22	−0·52	0·53	21	3	1	0	0	23	0	0	0	5	8	8	1	7	5	2	22	0·8
8·1	15	1·42	−0·98	0·41	20	2	0	0	1	16	0	0	1	7	14	3	8	7	3	2	17	1·1
...	16	3·79	+1·02	0·69	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	13	2·07	−0·10	0·41	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	14	1·56	−0·24	0·42	20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND QBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.	°	°	°	°	°		°		°	°	inch.	%
LEADHILLS, (Lanark.) JAMES M'FARLANE.	1300	Jan.	...	37·4	30·4	33·7	...	46·9	20	24·0	16	34·2	1·2	·174	87
		Feb.	...	35·3	26·8	31·0	...	49·0	21	20·0	29	30·8	1·0	·147	86
		Mar.	...	37·2	27·0	32·1	...	40·0	14	20·0	5	32·1	1·1	·156	86
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. COPELAND, F.R.S.E.	441	Jan.	29·261	43·3	35·6	39·4	+2·0	50·3	27	28·5	2	39·0	1·8	·203	86
		Feb.	29·006	40·5	32·0	36·3	−2·4	49·4	21	21·4	29	33·8	1·4	·185	88
		Mar.	29·486	43·5	33·7	38·6	−1·1	55·4	19	26·6	1	37·8	1·8	·192	85
CORSTORPHINE, (Edinburgh.) Dr T. N. JOHNSTON, F.R.S.E.	165	Jan.	29·553	43·5	35·1	39·3	+2·2	50·9	18	26·9	6	38·7	1·7	·202	86
		Feb.	29·298	41·5	31·9	36·7	−2·0	49·0	21	22·8	29	35·5	1·4	·181	87
		Mar.	29·789	45·1	33·0	39·0	−1·6	55·9	19	27·4	1, 31	38·6	2·4	·189	81
LEITH, (Edinburgh.) JAMES BOLAM, Navigation School, and GEORGE REDPATH.	76	Jan.	29·652	44·4	37·4	40·9	+2·1	51·7	27	30·1	1	40·6	2·0	·212	85
		Feb.	29·399	41·5	34·1	37·8	−2·5	49·2	20	24·7	29	37·1	1·3	·196	88
		Mar.	29·879	45·2	35·2	40·2	−1·4	58·4	19	29·0	1	39·9	2·3	·201	82
DALKEITH, (Edinburgh.) J. WHYTOCK, Gardener to the Duke of Buccleuch.	190	Jan.	29·529	43·5	35·7	39·6	+2·3	52·0	18	29·0	6	39·2	1·8	·205	85
		Feb.	29·272	40·3	33·0	36·6	−1·4	47·0	21	27·5	19	36·2	1·4	·187	88
		Mar.	29·756	44·8	34·9	39·9	−0·7	57·0	19	31·0	1	38·4	1·8	·197	86
SMEATON, (Haddington.) JOHN BLACK, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Jan.	29·637	44·3	35·3	39·8	+2·2	52·0	18	28·8	5	38·8	1·9	·199	85
		Feb.	29·379	41·4	32·5	37·0	−1·2	49·0	20	22·0	29	36·1	1·4	·187	87
		Mar.	29·860	45·4	32·9	39·1	−1·8	55·5	19	27·0	15, 27	38·7	2·4	·189	81
MARCHMONT, (Berwick.) JOHN A. WOOD, Gardener.	500	Jan.	29·215	43·3	32·7	38·0	+1·3	52·0	21	27·0	25	37·7	1·4	·196	88
		Feb.	28·949	39·7	30·8	35·2	−2·4	49·0	20	19·0	29	34·9	1·4	·175	87
		Mar.	29·404	43·2	31·7	37·4	−1·5	51·0	19	27·0	1,2	37·0	1·7	·187	85
DUNS CASTLE, (Berwick.) ROBERT AIKMAN, Gardener to R. Mordaunt Hay.	500	Jan.	29·208	43·4	32·3	37·8	+1·0	51·4	18	26·0	25	37·7	1·9	·190	83
		Feb.	28·946	40·1	30·5	35·3	−2·6	49·0	19	18·4	29	35·5	1·7	·176	85
		Mar.	29·410	44·2	31·8	38·0	−1·1	56·4	18	26·6	15	38·5	2·2	·190	82
STOBO CASTLE, (Peebles.) WILLIAM YOUNG, Gardener to Sir B. T. G. Montgomery, Bart.	600	Jan.	29·097	42·1	33·6	37·8	+1·3	49·0	18, 27	25·0	5, 25	38·0	1·6	·197	86
		Feb.	28·844	39·1	28·9	34·0	−2·8	48·0	20	14·0	19	33·9	1·2	·171	87
		Mar.	29·312	43·1	29·7	36·4	−2·2	54·0	19	22·0	1, 11	35·8	1·2	·189	90
BROOMLANDS, (Roxburgh.) JAMES BRUNTON.	205	Jan.	29·546	43·9	33·9	38·9	+1·8	50·0	19, 27	27·0	25	38·5	1·0	·213	92
		Feb.	29·275	41·7	30·9	36·3	−1·7	49·0	21	20·0	29	35·6	1·7	·178	85
		Mar.	29·755	45·2	32·0	38·6	−1·0	53·0	19	25·0	24	37·7	1·7	·193	85
WOLFELEE, (Roxburgh.) WILLIAM GORDON, Gardener to J. T. S. Elliot.	537	Jan.	29·178	41·4	31·5	36·5	+1·0	50·0	18	22·0	25	36·4	1·2	·193	90
		Feb.	28·892	39·4	28·4	33·9	−2·6	48·0	20	16·0	19	33·9	1·2	·171	87
		Mar.	29·371	43·8	30·6	37·2	−1·1	51·0	19	24·0	14	36·3	1·4	·188	88
DRUMLANRIG, (Dumfries.) DAVID INGLIS, Gardener to the Duke of Buccleuch.	191	Jan.	29·568	43·9	32·2	38·1	+0·5	50·0	23	22·0	17	38·0	1·8	·194	85
		Feb.	29·282	41·3	30·3	35·8	−2·2	48·0	21, 22	15·0	19	35·4	1·5	·179	87
		Mar.	29·760	44·7	30·7	37·7	−1·9	54·0	23	20·0	15	37·4	1·9	·183	82
DUMFRIES, (Dumfries.) Rev. WILLIAM ANDSON.	60	Jan.	29·716	44·2	35·4	39·8	+1·6	50·0	18, 27	29·0	2	40·0	1·8	·211	86
		Feb.	29·423	41·5	32·8	37·1	−2·0	48·0	20, 21	22·5	19	37·2	1·5	·193	85
		Mar.	29·909	45·1	32·4	38·7	−2·3	57·0	23	26·0	15	38·3	1·8	·196	85
CARGEN, (Kirkcudbright.) ALEX. PEACOCK, Gardener to Colonel Dudgeon.	85	Jan.	29·688	44·1	34·7	39·4	+1·2	51·0	19	27·0	2	39·0	1·1	·216	91
		Feb.	29·397	41·6	32·5	37·0	−2·1	49·0	20	21·0	19, 29	36·4	1·5	·187	87
		Mar.	29·878	44·7	32·8	38·8	−1·8	53·0	23	25·0	11	38·1	1·6	·198	86

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
...	25	7·39	...	0·86	5	6	0	0	...	...	7	1	...	...	...	...	...	...	...	...	...	...
...	20	4·86	...	1·51	11	15	0	0	...	...	0	2	...	...	...	...	...	...	...	...	...	...
...	12	4·14	...	1·12	28	5	0	0	...	...	0	1	...	...	...	...	...	...	...	...	...	...
6·2	12	2·87	+0·87	0·45	7, 31	4	0	0	2	5	2	5	0	0	2	5	12	16	25	0	2	3·6
6·7	21	2·38	+0·67	0·40	5	7	1	0	0	9	0	1	4	5	8	6	14	11	7	1	2	2·5
6·1	18	1·07	−0·38	0·24	20	10	3	0	4	11	2	2	5	8	12	4	14	7	9	2	1	2·8
5·1	21	2·90	...	0·50	7, 31	3	1	0	5	9	2	2	5	0	3	0	2	9	30	3	10	2·4
6·5	24	2·50	...	0·35	5	6	0	0	5	12	0	0	6	1	23	0	3	3	11	1	10	1·7
5·4	22	1·57	...	0·31	20	9	4	0	8	11	0	0	9	0	19	1	5	0	23	0	5	1·9
6·7	15	1·93	−0·07	0·50	11	4	1	0	3	15	0	1	0	0	1	6	8	22	21	0	4	3·4
6·8	22	2·63	+0·89	0·45	1	6	3	0	5	16	1	1	3	4	9	5	10	5	10	2	10	2·8
6·5	21	1·80	+0·20	0·23	20	9	4	0	7	16	0	0	3	1	21	2	6	9	16	1	3	3·2
4·7	...	2·30	...	...	...	4	0	0	7	7	0	4	0	0	0	3	14	21	22	2	0	3·5
5·2	...	2·50	...	...	...	5	0	0	7	10	0	1	1	6	2	7	7	20	6	9	0	3·0
5·1	...	0·70	...	...	...	4	0	0	8	7	0	0	5	9	5	4	13	23	1	2	0	2·6
5·3	7	1·92	+0·10	0·53	31	1	0	0	0	2	1	0	2	1	1	1	4	24	21	8	0	...
5·3	18	3·08	+1·58	0·35	26	5	0	0	1	5	2	1	5	5	4	13	4	10	15	2	0	...
5·1	16	1·54	−0·01	0·32	26	5	0	0	5	8	1	0	13	3	9	2	11	13	10	1	0	...
7·0	15	2·53	−0·07	0·46	12	1	0	0	4	15	0	1	6	2	1	2	8	18	25	0	0	2·4
8·0	20	2·33	−0·03	0·34	6	14	0	0	3	21	1	0	5	5	13	10	5	9	9	2	0	3·9
7·1	18	2·22	−0·23	0·43	28	10	1	0	4	17	1	1	9	8	10	0	5	4	20	6	0	2·5
7·7	12	2·70	+0·20	0·50	31	...	...	0	2	19	...	2	5	0	2	1	27	21	6	0	0	2·2
7·8	19	3·33	+1·11	0·44	26	...	...	0	1	17	...	0	21	1	3	1	21	10	0	1	0	4·0
7·4	18	2·42	+0·13	0·48	7	...	...	0	1	20	...	0	7	8	8	1	15	16	6	1	0	2·6
6·9	17	1·20	−1·98	...	...	4	1	0	0	15	0	0	0	0	2	3	11	24	22	0	0	2·3
7·4	18	2·40	−0·32	...	...	15	0	0	3	16	0	1	9	4	10	5	9	3	15	3	0	2·0
6·6	16	2·10	−0·35	...	...	8	3	0	4	14	0	0	3	0	16	2	10	8	18	5	0	1·6
5·7	16	1·85	−0·15	0·42	30	...	...	0	4	3	...	0	0	0	0	2	1	38	7	0	14	1·0
5·5	19	2·14	+0·38	0·38	25	...	...	0	5	9	...	0	0	3	7	0	1	24	8	3	12	0·9
6·5	18	2·04	+0·15	0·40	28	...	...	0	2	[illegible]	1	0	0	1	25	0	0	21	9	1	5	1·0
6·5	16	3·81	−0·32	1·02	10	8	0	0	3	[illegible]	2	2	2	3	0	3	1	3	49	1	0	2·5
7·9	19	4·07	+1·04	0·79	13	9	0	0	2	18	0	1	0	12	0	8	6	16	14	0	2	...
5·0	19	2·99	+0·13	0·88	29	3	0	0	9	6	0	0	3	17	5	5	1	13	11	7	0	1·0
...	24	4·36	−0·88	0·64	9	2	0	0	...	...	0	2	1	0	0	8	6	21	4	21	1	...
...	17	3·40	−0·75	0·75	12	4	0	0	...	...	0	1	3	2	0	25	2	14	3	8	1	...
...	19	3·72	+0·81	0·90	20	2	0	0	...	...	0	0	4	13	1	8	8	14	1	12	1	...
...	24	3·32	−0·23	0·53	9	2	0	0	...	...	1	1	0	3	2	11	8	26	7	5	0	2·7
...	20	2·54	−0·51	0·44	12	4	0	0	...	...	1	2	2	5	6	15	5	11	5	9	0	2·3
...	16	2·57	+0·18	0·81	28	0	0	0	...	...	1	0	2	12	11	8	6	10	10	3	0	2·6
6·9	19	4·02	−0·78	0·69	9	...	0	0	0	10	0	1	7	2	4	4	6	8	27	4	0	2·2
7·0	15	2·89	−1·00	0·76	12	...	1	0	0	9	0	1	7	0	12	15	5	4	12	3	0	1·6
6·2	15	3·48	+0·47	1·08	28	...	0	0	2	8	0	0	2	12	18	3	6	6	12	3	0	1·6

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.	°		°		°	°		°		°	inch.	%
CALLY, (Kirkcudbright.)	120	Jan.	29·645	44·1	34·8	39·5	+0·8	49·2	18	26·4	31	40·0	1·7	·213	86
WM. THOMSON, Gardener to		Feb.	29·359	43·6	31·9	37·7	+1·3	49·0	22	21·0	19	37·5	1·8	·186	85
H. G. Murray Stewart of Broughton.		Mar.	29·840	45·8	32·6	39·2	−1·4	51·0	10	22·3	15	38·8	1·8	·201	85
BEN NEVIS OBSERVATORY, (Inverness.)	4407	Jan.	25·086	28·5	22·5	25·5	+1·4	39·0	23	15·5	16	25·4	0·2	·130	95
R. T. OMOND, F.R.S.E.,		Feb.	24·870	25·0	19·0	22·0	−1·8	34·0	19	10·5	29	21·6	0·0	·116	100
and ANGUS RANKIN.		Mar.	25·298	26·7	19·6	23·2	−0·8	37·3	19	10·1	1	23·1	0·5	·105	86

BRIGHT SUNSHINE.

STATIONS.	1904.	SUNSHINE.		
	Months.	Total Observed.	Difference from Average.	Per centage of Possible.
		hours.	hours.	%
DEERNESS, (Orkney.)	Jan.	24·7	− 2·8	12
	Feb.	51·6	− 4·7	20
	Mar.	86·0	−22·3	24
INVERNESS, (Inverness.)	Jan.	68·4	+27·4	30
	Feb.	61·4	− 1·6	23
	Mar.	137·0	+52·0	38
FORT AUGUSTUS, (Inverness.)	Jan.	...	...	...
	Feb.	47·6	+ 5·9	18
	Mar.	101·4	+24·3	28
FORT WILLIAM, (Inverness.)	Jan.	6·4	−18·6	3
	Feb.	31·3	−21·9	12
	Mar.	103·8	+ 7·8	29
CRATHES, (Kincardine.)	Jan.	...	...	...
	Feb.	48·1	...	18
	Mar.	113·4	...	32
BALRUDDERY, (Forfar.)	Jan.	45·8	...	20
	Feb.	52·5	...	20
	Mar.	117·5	...	33
PAISLEY, (Renfrew.)	Jan.	31·4	− 3·2	13
	Feb.	28·5	−23·7	11
	Mar.	72·6	−31·7	20
GLASGOW, (Lanark.)	Jan.	13·3	−10·9	6
	Feb.	20·2	−24·0	7
	Mar.	67·0	−19·8	18
EDINBURGH, (Edinburgh.)	Jan.	37·0	− 3·2	16
	Feb.	56·3	+ 2·3	21
	Mar.	94·3	−10·5	26
MARCHMONT, (Berwick.)	Jan.	37·3	− 3·7	16
	Feb.	42·1	−27·0	15
	Mar.	101·3	− 4·0	28
BEN NEVIS OBSERVATORY, (Inverness.)	Jan.	9·2	−13·2	3·9
	Feb.	22·6	−18·3	8·7
	Mar.	69·6	+14·2	19·2

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	20	4·48	– 0·42	0·63	7	1	1	0	...	...	1	3	6	5	5	6	4	12	5	17	2	2·0
...	19	5·03	+ 0·92	1·08	25	6	0	0	...	...	0	2	1	17	8	17	2	6	1	6	0	1·7
...	17	4·42	+ 0·98	0·78	28	1	2	1	...	...	0	0	1	18	4	12	1	17	3	6	0	1·6
9·3	25	21·71	+ 3·21	2·69	14	22	7	0	2	27	30	8	12	0	0	8	14	10	8	8	2	2·6
9·3	24	11·41	– 2·03	2·29	13	23	6	1	0	26	29	3	6	4	14	14	10	4	2	2	2	2·8
7·7	21	8·65	– 5·54	1·86	22	19	4	0	3	2	29	3	6	4	12	10	10	8	6	4	2	2·5

UNDERGROUND TEMPERATURE.

STATIONS.		1904.	UNDERGROUND TEMPERATURE.				
		Months.	Depth in Inches.				
			3	12	22	36	48
			°	°	°	°	°
DUNROBIN,	(Sutherland.)	Jan.	37·1	37·9	37·9	...	...
		Feb.	36·4	37·7	36·9	...	...
		Mar.	38·4	39·8	39·6	...	...
ARBROATH,	(Forfar.)	Jan.	37·2	37·1	38·1	...	...
		Feb.	35·4	35·9	37·6	...	...
		Mar.	37·5	37·4	37·9	...	...
OCHTERTYRE,	(Perth.)	Jan.	38·0	39·0	39·3	40·9	41·2
		Feb.	36·1	37·7	38·8	39·9	40·9
		Mar.	37·6	39·0	39·4	39·8	40·3
POLTALLOCH,	(Argyll.)	Jan.	39·3	39·5	38·5	...	...
		Feb.	37·4	38·6	37·5	...	...
		Mar.	39·1	40·3	39·4	...	...
PAISLEY,	(Renfrew.)	Jan.	39·2	39·5	41·0	...	...
		Feb.	36·9	37·7	39·9	...	...
		Mar.	37·9	38·6	40·8	...	...
CORSTORPHINE,	(Edinburgh.)	Jan.	36·2	36·9	37·3	...	...
		Feb.	35·2	36·8	37·3	...	...
		Mar.	37·2	38·8	38·3	...	...
SMEATON,	(Haddington.)	Jan.	36·8	36·8	35·5	...	...
		Feb.	34·8	35·5	36·3	...	...
		Mar.	36·7	37·2	37·8	...	...
MARCHMONT,	(Berwick.)	Jan.	35·2	36·2	37·9	...	...
		Feb.	34·9	35·7	37·5	...	...
		Mar.	35·9	36·9	38·0	...	...

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 30th JUNE 1904.

By Dr **Buchan**, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 60 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE – 56° 33′ N.; MEAN LONGITUDE – 3° 45′ W.; AND MEAN ELEVATION –279 Feet.

1904.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
April	29·717	52·0	38·2	45·1	67·5	23·3	44·6	2·8	·234	80	20	3·95	6·3	*
May	29·869	55·5	41·5	48·5	77·0	27·0	48·1	2·9	·266	79	17	3·00	6·8	*
June	29·996	62·0	46·6	54·3	82·0	31·9	53·9	3·3	·326	79	12	1·96	6·0	*

1904.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
April	44·3	44·2	43·9	42·8	42·6	2	1	3	4	7	13	21	8	1	3·2	8	1
May	49·3	49·2	48·6	46·0	45·6	4	8	9	7	7	9	10	5	3	2·5	17	1
June	55·7	55·6	54·8	51·2	50·0	4	7	11	5	6	8	11	6	2	2·4	10	1·5

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these results are compared with the averages of 1856–1900, during the same months, they show the following characteristics and differences :—

APRIL 1904—

Mean Barometric Pressure, 29·717 inches; less than the average of 1856–1900 by 0·171 inch.
Mean Temperature, 45°·1; greater by 0°·9.
Mean Daily Range of Temperature, 13°·8; less by 0°·7.
Mean Humidity, 80 per cent.; less by 2 per cent.
Rain, Number of Days, 20; greater by 7 days.
Rain, Depth in Inches, 3·95; greater by 1·73 inch.
Wind, Mean Force (on Scale of 0–12), 3·2; greater by 0·5.
Wind, Direction of, a 9 days' excess of winds from a Westerly quarter.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·3; greater by 0·1.

MAY 1904—

Mean Barometric Pressure, 29·869 inches; less than the average of 1856–1900 by 0·071 inch.
Mean Temperature, 48°·5; less by 0°·5.
Mean Daily Range of Temperature 14°·0; less by 1°·5.
Mean Humidity, 79 per cent.; less by 1 per cent.
Rain, Number of Days, 17; greater by 4 days.
Rain, Depth in Inches, 3·00; greater by 0·71 inch.
Wind, Mean Force (on Scale of 0–12), 2·5; being the average.
Wind, Direction of: winds from E. and S.W., each 1 day in excess.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·8; greater by 0·6.

JUNE 1904—

Mean Barometric Pressure, 29·996 inches; greater than the average of 1856–1900 by 0·054 inch.
Mean Temperature, 54°·3; less by 0°·6.
Mean Daily Range of Temperature, 15°·4; greater by 0°·1.
Mean Humidity, 79 per cent.; less by 1 per cent.
Rain, Number of Days, 12; less by 1 day.
Rain, Depth in Inches, 1·96; less by 0·62 inch.
Wind, Mean Force (on Scale of 0–12), 2·4; being the average.
Wind, Direction of, a 3 days' excess of winds from N.E. and E.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·0; less by 0·2.

APRIL 1904—

Hence the month of APRIL 1904 was characterised by an extremely low mean barometric pressure; a mean temperature a little above the average, with a slightly low mean daily range; a somewhat low mean humidity; a very high mean rainfall, with an unusually large number of rainy days; a remarkable excess of Westerly winds of considerably more than average force.

The mean barometric pressure was 29·717 inches, or 0·171 inch below the normal. Pressure at Leith was above 30 inches at sea-level only from 18th to 21st, and on 24th and 25th. Highest readings were everywhere recorded on 18th or 19th, and lowest on 1st, 6th or 13th, the sea-level extremes at Leith being 30·317 inches on the morning of the 19th, and 29·106 inches on the morning of the 6th.

The mean temperature was 45°·1, or 0°·9 above the normal, the days being 0°·6 and the nights 1°·3 above their respective averages. In the Western Islands the mean was below the average, but at nearly all mainland stations there was an excess, slight at most Western places, but 2°·0 in Midlothian and rather more at Paisley and Wolfelee. From 1st to 10th the weather was cold and unsettled, but thereafter temperature was, except on one or two days, above the average, with highest readings generally on the 19th. At nearly half the stations frost in shade was not recorded; but on 1st Braemar registered 23°·3, and on the 21st the minimum on grass fell to 20°·0 at Ochtertyre, 20°·5 at Braemar, and 23°·5 at Fort-William. The absolute maximum was 67°·5 at Dumfries on 19th, and the minimum 23°·3 at Braemar on 1st.

The mean rainfall was 3·95 inches, or 78 per cent. above the normal, being the largest April rainfall since 1867. Except along the East Coast, where there was generally a shortage, amounting to 50 per cent. at Cupar and Smeaton, rainfall was greatly above the average. At Glenquoich, Invergarry and Fort-Augustus the amounts were more than thrice the average, at Dunrobin, Lairg, Glencarron and Fort-William, nearly thrice, and at Stronvar, in the Counties of Stirling and Linlithgow, and in the lower Clyde area more than twice. More than half the rainfall was registered between 1st and 10th, and in most districts the last nine days of the month were very wet. At Fort William and Stronvar there were only two rainless days. Leadhills reported 1·91 inch on 2nd, and Stronvar 1·56 on 9th. The largest totals were 17·86 inches at Glenquoich, and 13·29 at Glencarron. On Ben Nevis the amount was 26·57 inches, or 17·18 inches above the average of 20 years.

The first ten days were of a stormy character, a gale from W. and SW. being almost continuous at some Western places. On one or two of these days the weather was very wintry, with snow, sleet, and hail in places. Again on 24th and 25th there was a gale from W. and NW.

Thunder occurred at Paisley and Glasgow on 1st, at Cally on 3rd, at Glencarron on 9th, in Central Perthshire on 13th, and at Stobo on 22nd.

Auroras were noted at Deerness on 7th and 10th, and at Paisley on 30th.

Bright sunshine was above the average at Inverness and Marchmont, very deficient at Fort-William and Fort-Augustus, and nearly the average at other stations.

MAY 1904—

Hence the month of MAY 1904 was characterised by a low mean barometric pressure; a slightly low mean temperature, with a somewhat low mean daily range; a slightly low mean humidity; a high mean rainfall, with a large number of rainy days; a slight excess of winds of average force from E. and SW.

The mean barometric pressure was 29·869 inches, or 0·071 inch below the normal. Lowest readings were everywhere noted on 2nd, and highest on 19th, 20th, or during last four days of the month, the sea-level extremes at Leith being 30·204 inches on 20th, and 29·247 inches on 2nd.

The mean temperature was 48°·5, or 0°·5 below the normal, the days being 1°·2 below and the nights 0°·3 above their respective averages. At a few stations there was a fractional excess and at about half the mean was within 0°·5 of the average. The greatest defect was 2°·0 at Fort-Augustus. Cold weather was experienced from 1st to 12th, the ground minimum at Fort-William falling to 27°·0 on the night of 3rd, and

[*Continued on page* 260.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	Apr.	29·294	...	...	...	...	...	...	...	...	42·3	...	...	...
		May	29·583	...	...	...	...	...	...	...	...	44·6	...	...	...
		June	29·684	...	...	...	...	...	...	...	...	49·2	...	...	...
LERWICK, (Shetland.) G. ALLISON, Harbour Master.	30	Apr.	29·524	46·9	38·9	42·9	...	51·0	17, 18	33·0	26, 28	42·9	1·8	·237	86
		May	29·819	50·6	42·5	46·5	...	59·0	27	37·0	7, 20	45·9	2·1	·263	86
		June	29·907	55·6	46·5	51·0	...	60·0	1, 6	40·0	25	51·0	2·5	·311	83
DEERNESS, (Orkney.) M. SPENCE, Schoolhouse.	172	Apr.	29·401	47·6	38·4	43·0	+0·7	53·0	18	33·0	6	42·8	1·8	·236	86
		May	29·657	50·3	41·5	45·9	−0·9	55·6	13	35·2	8	46·0	2·1	·263	85
		June	29·776	54·9	46·4	50·6	−0·3	61·8	3	43·0	12, 17	50·6	2·4	·308	83
KIRKWALL, (Orkney.)	30	Apr.	...	...	...	...	...	...	...	...	...	...	...	...	...
		May	...	...	...	...	...	...	...	...	...	...	...	...	...
		June	...	...	...	...	...	...	...	...	...	...	...	...	...
DUNROBIN, (Sutherland.) D. MELVILLE, Gardener, Dunrobin Castle.	16	Apr.	29·623	50·6	37·8	44·2	−0·1	60·0	19	30·0	4	44·0	2·8	·228	78
		May	29·827	53·7	41·0	47·4	−1·1	61·0	16	35·0	8, 12	47·9	3·1	·262	80
		June	29·948	57·9	47·1	52·5	−0·7	65·5	15	38·5	28	52·8	3·2	·316	79
LAIRG, (Sutherland.) Rev. JOHN K. MACLEAN.	390	Apr.	29·195	51·1	36·7	43·9	−0·2	63·8	19	29·9	21	42·6	2·1	·229	85
		May	29·394	55·5	39·8	47·6	−0·3	71·0	30	34·0	11	47·2	2·9	·258	80
		June	29·528	63·6	44·4	54·0	−0·1	78·8	4	31·9	28	53·7	3·5	·319	77
GLENCARRON, (Ross.) D. D. MUNRO.	504	Apr.	29·115	48·7	37·9	43·3	+0·5	54·6	15	33·0	3, 21	42·8	2·3	·227	83
		May	29·296	54·8	39·8	47·3	−0·5	75·8	30	32·0	8	47·2	3·3	·249	77
		June	29·426	60·5	46·1	53·3	+0·3	73·0	30	39·6	28	43·0	4·0	·299	74
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	Apr.	29·506	...	...	...	...	...	...	...	...	44·0	...	...	...
		May	29·667	...	...	...	...	...	...	...	...	47·5	...	...	...
		June	29·793	...	...	...	...	...	...	...	...	52·8	...	...	...
KINGUSSIE, (Inverness.) Dr WALTER DE WATTEVILLE.	828	Apr.	28·779	48·8	36·1	42·5	+0·9	60·0	19	30·5	4	42·2	3·0	·209	78
		May	28·962	54·5	39·5	47·0	+0·1	76·4	30	31·9	20, 25	47·4	3·8	·241	75
		June	29·092	62·4	44·9	53·6	−0·8	77·0	5	37·0	12	53·9	4·0	·310	74
INVERNESS, (Inverness.) THOS. WALLACE, High School.	114	Apr.	29·530	52·6	39·7	46·1	+0·7	63·9	19	33·1	9	45·6	2·4	·255	82
		May	29·716	54·9	42·2	48·6	−0·6	69·1	16	35·0	8	48·3	3·0	·279	83
		June	29·848	60·3	48·4	54·3	−0·5	76·0	30	37·9	28	54·6	3·4	·334	78
FORT AUGUSTUS, (Inverness.) Rev. CYRIL VON DIECKHOFF, St Benedict's Priory.	78	Apr.	29·600	51·8	37·6	44·7	+0·2	62·8	19	28·0	21	44·8	2·6	·239	81
		May	29·768	55·7	40·1	47·9	−2·0	71·2	30	31·7	12	48·4	2·6	·278	83
		June	29·894	61·2	46·9	54·1	−1·4	77·2	4	37·8	28	53·9	3·4	·324	78
FORT WILLIAM, (Inverness.) R. T. OMOND, F.R.S.E., and ANGUS RANKIN.	42	Apr.	29·665	51·9	39·4	45·6	+0·6	62·5	8	30·3	21	45·0	3·1	·231	77
		May	29·813	57·1	41·6	49·3	−0·6	77·0	30	33·1	12	48·9	3·3	·269	78
		June	29·937	63·5	47·6	55·6	−0·2	75·3	5	38·7	27	55·0	3·7	·332	77
GORDON CASTLE, (Banff.) C. WEBSTER, Gardener to the Duke of Richmond and Gordon.	107	Apr.	29·584	53·5	37·7	45·6	+1·1	66·0	19	31·0	21	45·6	3·3	·234	77
		May	29·735	56·7	40·8	48·8	−0·1	75·0	30	33·0	20	49·9	3·6	·273	76
		June	29·863	61·7	46·8	54·3	−0·4	77·0	30	34·5	12	55·2	3·6	·337	78
BRAEMAR, (Aberdeen.) JAMES AITKEN, Banker.	1114	Apr.	28·488	48·4	34·6	41·5	+0·7	56·3	19	23·3	1	41·4	2·6	·208	81
		May	28·653	53·8	37·9	45·8	−0·2	70·5	30	28·8	12	46·7	3·0	·251	80
		June	28·776	61·1	44·4	52·8	+0·2	75·0	3	37·5	28	53·2	4·0	·302	74
LOANHEAD, (Aberdeen.) ALEX. FARQUHARSON.	747	Apr.	28·854	51·5	36·2	43·8	+1·2	60·6	19	31·8	12	43·8	2·9	·224	77
		May	29·046	55·5	39·1	47·3	+0·0	72·0	30	30·1	12	48·2	3·1	·263	79
		June	29·181	63·1	45·0	54·0	+0·3	78·2	4	37·2	28	54·5	3·9	·325	77

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
7·7	19	...	...	...	...	1	0	0	2	15	0	0	4	0	2	8	16	10	10	10	0	4·3
7·2	18	...	...	...	...	0	1	0	3	15	2	0	6	11	4	9	12	5	8	4	3	4·2
6·9	9	...	...	...	...	0	0	0	5	15	2	0	9	9	3	4	5	5	10	13	2	3·3
...	18	4·99	...	0·97	24	0	0	0	...	...	0	5	3	0	3	2	26	9	7	10	0	4·2
...	18	2·55	...	0·67	2	0	0	0	...	...	2	2	6	5	8	2	26	4	7	3	1	3·5
...	8	1·57	...	0·55	21	0	0	0	...	...	0	1	6	10	9	0	15	1	7	10	2	3·0
6·6	19	4·28	+ 2·46	0·71	5	3	3	0	2	10	3	4	1	1	2	12	10	13	14	7	0	4·1
6·9	10	1·64	− 0·11	0·63	26	0	2	1	0	9	3	4	7	8	7	17	10	5	3	5	0	3·6
7·2	12	1·71	− 0·13	0·31	19	0	0	0	3	15	3	1	13	4	10	11	4	4	13	1	0	2·8
...	...	3·35	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	2·09	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	1·09	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	19	5·25	+ 3·44	0·80	27	2	0	0	...	...	0	0	0	1	1	13	4	3	11	27	0	...
...	9	1·50	− 0·39	0·87	18	0	1	0	...	...	0	0	5	1	32	3	1	0	17	3	0	...
...	12	1·28	− 0·76	0·30	1	0	0	0	...	...	0	2	4	0	22	9	3	3	10	9	0	...
6·0	24	5·84	+ 3·70	0·67	27	4	1	0	1	9	0	1	1	0	4	6	5	2	26	12	4	3·6
...	17	2·56	+ 0·41	0·87	18	2	0	0	...	...	0	0	8	2	21	3	4	0	12	3	9	2·6
6·5	16	1·87	− 0·33	0·40	16	0	0	0	4	14	0	0	6	2	14	4	5	2	13	9	5	3·0
6·1	27	13·29	+ 3·36	1·30	27	...	...	1	5	16	...	0	8	0	5	1	0	0	45	0	1	4·3
7·8	22	5·74	+ 1·26	0·68	14, 18	...	...	0	3	17	...	1	12	0	18	0	2	0	28	0	2	4·1
6·5	16	5·97	+ 1·26	2·31	16	...	...	0	6	15	...	1	10	1	23	0	1	0	25	0	0	2·1
6·5	23	5·92	+ 3·87	0·88	8	4	4	0	0	8	0	7	2	0	1	7	7	9	12	22	0	6·0
4·5	20	3·84	+ 1·22	0·75	14	0	0	0	10	5	4	0	2	12	5	4	15	8	10	6	0	4·2
5·2	18	2·65	+ 0·02	0·55	17	0	0	0	8	6	0	2	7	2	11	3	16	5	12	3	1	3·7
7·9	20	4·10	+ 2·20	0·68	9	...	...	...	0	18	...	...	...	...	...	...	...	...	...	...	...	...
7·7	16	2·09	+ 0·33	0·33	5	...	...	...	1	18	...	...	...	...	...	...	...	...	...	...	...	...
6·8	12	1·11	− 0·86	0·45	1	...	...	...	2	13	...	...	...	...	...	...	...	...	...	...	...	...
7·6	23	3·40	+ 1·95	0·51	6	6	2	0	1	13	4	7	0	0	2	0	2	11	41	4	0	1·6
7·4	17	2·20	+ 0·21	0·35	5	1	3	0	3	14	2	3	1	10	16	0	2	8	16	6	3	1·3
7·2	13	1·47	− 0·38	0·71	1	0	0	0	2	14	1	4	2	12	17	2	0	9	15	2	1	1·4
7·7	24	7·00	+ 4·78	0·88	6	2	2	0	1	13	0	3	1	1	0	1	21	27	3	0	6	3·7
7·1	19	3·73	+ 1·64	0·43	5, 17	2	1	1	0	11	1	2	1	21	0	2	10	16	1	1	10	3·2
6·8	14	2·54	+ 0·31	0·94	16	0	0	0	3	9	1	1	4	23	0	0	8	15	1	1	8	3·8
8·2	28	9·77	+ 6·24	1·36	2	5	6	0	1	16	0	1	1	0	0	4	1	19	31	0	4	1·8
7·8	21	6·05	+ 2·72	1·18	1	3	2	3	0	16	0	0	5	4	3	5	7	9	14	1	14	1·0
6·4	14	4·73	+ 1·03	0·86	16	0	0	0	4	13	0	0	15	5	2	2	5	11	12	0	8	1·4
6·6	18	1·79	− 0·12	0·48	27	...	...	0	0	8	...	...	0	0	0	6	9	18	19	8	0	...
7·4	14	1·90	+ 0·15	0·37	24	...	...	0	0	11	...	...	2	11	1	19	13	6	4	6	0	...
6·6	11	1·24	− 0·82	0·32	5	...	...	0	3	11	...	...	4	14	3	12	1	16	3	7	0	...
6·6	18	2·78	+ 0·54	0·70	2	7	0	0	0	6	1	1	2	0	1	1	2	39	10	5	0	1·9
7·2	15	2·12	− 0·12	0·62	1	1	0	2	0	10	0	0	2	12	4	4	8	22	5	5	0	1·2
6·6	11	1·51	− 0·83	0·31	16	0	0	0	1	8	1	2	3	6	11	2	6	22	1	9	0	0·6
5·2	17	1·77	− 0·26	0·30	29	1	0	0	7	8	0	0	0	2	1	8	1	10	16	12	10	...
6·3	18	3·13	+ 1·07	0·71	8	1	0	0	1	14	0	2	6	8	3	5	3	4	4	10	19	...
7·0	13	0·61	− 1·49	0·27	24	0	0	0	5	17	0	3	7	3	14	11	0	5	6	12	12	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
TILLYPRONIE, (Aberdeen.) Robt. Littlejohn, Gardener to Sir John F. Clark, Bt.	1120	Apr.	28·479	50·1	34·5	42·3	+1·4	58·5	19	29·0	21	41·3	2·5	·209	81
		May	28·648	53·0	37·0	45·0	−0·2	69·3	29	30·3	12	44·8	2·4	·242	82
		June	28·791	61·3	43·6	52·4	+0·6	79·0	4	37·6	7	51·0	3·8	·281	75
ABERDEEN, (Aberdeen.) Peter Harper, Superintendent, Duthie Park.	44	Apr.	29·634	54·0	37·8	45·9	+1·1	63·6	29	30·5	4	45·7	3·3	·235	77
		May	29·816	55·6	41·2	48·4	−0·1	63·0	25	34·0	20, 21	49·2	3·0	·278	79
		June	29·947	60·9	47·2	54·0	−0·7	71·2	3	37·0	12	53·6	3·8	·310	76
PETERHEAD, (Aberdeen.) Dr W. H. M'Walter, H.M. Prison.	100	Apr.	29·559	51·8	37·1	44·4	+0·4	59·9	30	29·2	2	43·8	3·2	·218	76
		May	29·742	53·6	41·3	47·4	−0·9	60·8	17	36·0	8, 20	46·7	3·0	·252	80
		June	29·874	58·7	46·6	52·6	−1·4	68·0	17	39·0	12	52·1	3·4	·302	77
CRATHES, (Kincardine.) J. Smith, Pinewood.	145	Apr.	29·525	52·9	36·2	44·5	...	61·5	29	31·0	12, 19	45·4	3·8	·272	74
		May	29·714	55·7	40·3	48·0	...	67·0	29	30·5	20	48·5	3·7	·255	75
		June	29·838	63·1	45·5	54·3	...	72·2	3, 4	35·3	28	54·4	3·1	·314	74
MONTROSE, (Forfar.) (Royal Asylum), Dr John G. Havelock.	200	Apr.	29·486	52·9	37·8	45·3	+1·4	60·0	29	34·0	1, 9	44·2	3·2	·222	76
		May	29·652	53·6	40·7	47·2	−1·0	59·0	15	33·0	12	46·9	2·9	·255	80
		June	29·780	60·3	46·3	53·3	−1·3	67·0	21	39·0	7	52·7	3·4	·307	77
ARBROATH, (Forfar.) James Campbell, "For the Natural History Assoc. of Arbroath."	68	Apr.	29·628	52·2	38·1	45·1	+0·6	59·0	29	34·0	2, 9	45·2	2·9	·237	79
		May	29·800	53·0	41·8	47·4	−1·4	60·0	19	34·0	8	47·4	2·6	·267	83
		June	29·925	59·1	47·1	53·1	−1·5	68·0	22	40·0	7	53·0	3·1	·320	79
DUNDEE, Eastern Necropolis, (Forfar.) J. Carnochan, Curator.	164	Apr.	29·546	55·7	37·5	46·6	+1·7	65·8	18	33·2	9, 19	45·1	3·3	·228	76
		May	29·696	57·6	40·5	49·0	−0·8	67·4	29	33·6	8	47·7	2·8	·266	79
		June	29·825	64·8	46·2	55·5	−0·8	73·8	3	39·1	11	54·0	3·6	·320	76
DUNDEE, Harbour, (Forfar.) J. Thompson, Jr., Harbour Trust.	20	Apr.	29·706	55·4	40·0	47·7	+1·4	65·0	19	34·0	10	46·2	3·3	·240	77
		May	29·865	56·9	43·1	50·0	−0·8	64·0	20	35·0	8	49·1	2·9	·279	79
		June	29·986	63·5	48·5	56·0	−0·8	70·5	4	44·0	7	54·9	3·2	·370	86
LEDNATHIE, (Forfar.) Wm. Morrison, Gardener to Patrick Stormonth Darling.	720	Apr.	28·914	50·4	34·7	42·5	+0·4	59·0	19	28·0	21	42·4	2·8	·214	80
		May	29·078	53·8	38·1	46·0	−1·2	68·0	29	27·0	12	46·5	2·9	·251	80
		June	29·216	61·7	43·5	52·6	−0·7	72·0	4	37·0	8	52·1	3·3	·304	78
BALRUDDERY, (Forfar.) R. Cairns, Gardener to J. Martin White.	280	Apr.	29·417	53·6	37·1	45·3	+0·8	63·0	18	33·0	9, 19	44·4	3·2	·224	76
		May	29·574	58·0	39·7	48·8	−0·5	69·0	29	32·0	11, 12	48·8	3·3	·261	77
		June	29·704	64·2	44·3	54·2	−2·1	72·0	2, 3	36·0	28	54·4	3·3	·309	73
PERTH, (Perth.) John Leslie, Gardener to Henry Coats.	105	Apr.	29·611	54·1	36·9	45·5	+0·3	62·5	18, 19	30·0	19, 21	45·5	3·2	·239	77
		May	29·759	57·1	40·4	48·8	−0·7	66·5	16	31·5	12	48·8	3·1	·272	79
		June	29·887	64·9	45·6	55·2	−0·8	78·0	30	37·0	28	54·2	3·5	·325	77
STRONVAR, (Perth.) D. L. Mackintosh, Gardener to James Carnegie.	422	Apr.	29·277	50·9	37·6	44·2	+0·2	61·0	19	25·0	21	43·3	2·7	·223	80
		May	29·408	55·1	40·5	47·8	−0·7	71·0	29	35·0	6, 25	46·5	3·0	·249	80
		June	29·544	62·5	46·4	54·4	−0·3	78·0	4	37·0	10	53·8	3·8	·323	75
OCHTERTYRE, (Perth.) George Croucher, Gardener to Sir Patrick Keith Murray, Bart.	333	Apr.	29·369	53·5	37·6	45·6	+1·1	62·0	18, 19	32·0	19, 21	44·8	3·3	·226	77
		May	29·509	57·5	40·4	48·9	−0·2	71·0	29	32·0	12	48·2	3·0	·265	79
		June	29·638	65·4	45·6	55·5	+0·1	78·0	4, 5	38·0	28	54·2	3·6	·322	77
CLATHICK, (Perth.) Alex. Hendry.	300	Apr.	29·404	53·5	37·7	45·6	...	63·0	18	30·5	21	44·9	3·4	·225	76
		May	29·548	56·6	40·0	48·3	...	71·0	29	32·0	12	48·2	3·1	·263	79
		June	29·677	65·0	45·5	55·2	...	77·0	4	38·0	28	54·2	3·7	·321	76
CUPAR, (Fife.) Dr Turnbull, Fife and Kinross District Asylum.	210	Apr.	29·504	52·7	38·3	45·5	+1·4	61·0	20	32·0	9	45·5	2·5	·248	82
		May	29·654	55·7	40·8	48·3	−0·8	69·0	16	32·0	11	48·7	3·0	·272	80
		June	29·776	63·2	46·7	55·0	−1·0	72·0	3	42·0	8, 28	54·5	3·3	·334	78

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
6·6	19	1·52	− 0·63	0·28	14	2	0	0	0	4		3	3	0	0	5	1	22	18	11	0	4·0
8·0	18	3·32	+ 1·39	0·59	9	0	0	1	0	16	4	1	2	1	0	20	1	23	2	13	0	3·3
6·8	15	0·80	− 1·49	0·37	24	0	0	0	0	11	2	1	2	6	0	11	1	32	0	8	0	2·6
5·3	11	1·67	− 0·40	0·52	13	0	0	0	3	6	3	2	0	0	1	7	13	21	9	9	0	3·6
6·9	17	2·75	+ 0·73	0·82	5	0	1	1	0	9	3	1	4	14	1	10	10	14	3	6	0	2·8
5·7	7	0·81	− 1·08	0·34	23	0	0	0	3	3	1	1	3	13	1	2	16	11	5	9	0	3·0
...	16	1·19	− 0·69	...	...	0	1	0	...	...	0	2	3	0	0	4	25	11	3	10	4	4·1
...	18	0·75	− 0·85	...	...	0	1	0	...	...	2	1	9	4	2	12	16	1	0	15	3	4·0
...	11	0·88	− 1·22	...	...	0	0	0	...	...	1	3	12	2	3	2	17	7	0	12	5	3·8
5·3	15	1·48	...	0·46	13	1	0	0	7	7	0	6	2	1	1	3	13	12	20	7	1	3·8
6·5	19	2·42	...	0·66	5	0	1	1	5	14	0	2	5	8	3	10	15	6	9	6	0	3·6
6·0	12	0·65	...	0·22	14	0	0	1	6	14	0	1	5	6	7	6	10	8	7	10	1	3·8
...	11	1·32	− 0·73	0·43	13	0	0	0	...	...	2	6	1	1	2	6	8	18	18	6	0	4·2
...	15	2·58	+ 0·70	0·38	5	0	1	1	...	...	2	2	10	4	13	10	11	1	6	7	0	3·5
...	7	0·53	− 1·51	0·14	25	0	0	0	...	...	1	2	8	6	6	15	8	3	11	1	2	3·0
4·3	15	1·16	− 0·56	0·17	5, 14	2	1	0	5	2	5	5	4	0	6	5	4	14	26	1	0	3·3
6·7	15	1·96	+ 0·09	0·44	8	1	1	0	0	5	3	0	6	14	7	12	3	6	9	4	1	1·9
5·4	11	0·65	− 1·28	0·17	14	0	0	0	3	4	4	2	3	15	14	2	4	8	12	1	1	1·9
7·8	18	1·75	− 0·18	0·29	5	2	2	0	1	12	0	3	0	3	0	10	0	17	17	11	0	3·4
9·0	20	2·56	+ 0·68	0·62	23	0	0	0	0	23	2	0	0	12	2	24	0	12	8	4	0	2·4
7·9	11	0·57	− 1·49	0·14	14	0	0	0	2	18	0	1	0	10	8	16	0	10	9	7	0	2·2
...	20	2·14	...	0·32	5	1	0	0	...	...	0	4	0	2	6	5	2	12	19	14	0	3·7
6·7	17	2·35	...	0·55	6	0	0	0	3	12	1	0	2	12	15	5	3	11	9	5	0	2·9
5·9	8	0·46	...	0·14	14	0	0	0	4	4	0	2	2	4	19	9	2	8	8	8	0	2·7
5·7	19	3·80	+ 0·77	0·66	14	3	1	0	4	7	1	5	2	2	1	5	7	4	26	13	0	4·9
6·4	20	2·88	+ 0·28	0·83	23	2	5	3	1	8	3	4	7	6	6	17	6	6	8	5	1	3·4
6·4	14	1·40	− 1·43	0·41	14	0	0	0	1	10	2	2	8	4	6	14	3	8	8	9	0	3·4
4·2	19	2·45	..	0·28	6, 10	1	0	0	2	3	0	3	0	2	0	5	3	16	20	14	0	5·2
5·0	16	2·76	...	0·87	24	0	0	1	2	4	0	1	1	16	7	6	2	7	14	9	0	1·8
5·4	10	0·60	...	0·14	14, 15	0	0	0	3	3	0	3	0	3	7	10	0	14	10	16	0	3·4
4·5	...	3·30	+ 1·16	...	...	...	...	...	7	4	...	3	1	0	0	2	4	3	35	3	12	2·3
7·0	...	2·57	+ 0·35	...	...	...	...	...	3	15	...	0	2	5	19	4	5	3	15	2	7	1·0
5·2	...	1·14	− 1·05	...	...	...	...	...	8	8	...	0	0	3	21	7	6	4	11	0	8	1·2
5·0	28	9·79	+ 5·68	1·56	9	4	0	0	4	5	0	6	0	4	0	14	2	4	24	12	0	5·2
5·0	25	5·38	+ 1·43	0·92	23	1	0	1	4	5	0	1	0	0	10	8	0	8	12	22	2	4·0
...	16	4·71	+ 0·77	1·43	14	0	0	0	...	...	0	1	0	6	20	2	0	6	20	6	0	3·1
6·5	22	3·83	+ 1·58	0·79	2	...	...	1	1	8	0	2	0	1	9	2	3	6	26	13	0	2·4
7·9	21	3·25	+ 0·67	0·63	5	...	...	1	0	14	0	0	0	3	26	1	0	8	16	8	0	1·5
6·5	11	1·99	− 0·97	0·41	14	...	...	1	1	7	0	1	1	2	23	4	0	6	19	3	2	1·5
5·8	25	4·52	...	0·78	2	1	0	1	2	3	0	4	8	0	9	3	2	6	19	13	0	4·6
7·6	22	3·74	...	0·64	1	0	0	0	0	15	0	0	5	5	24	8	3	7	5	5	0	3·4
6·2	11	2·19	...	0·51	14	0	0	1	4	8	0	2	2	5	25	4	4	4	5	11	0	3·8
4·7	14	0·86	− 1·09	0·10	2, 14	...	...	...	1	1	...	0	11	0	7	0	2	4	22	13	1	3·2
5·6	15	1·16	− 0·82	0·30	2	...	...	...	0	3	...	0	3	4	29	1	1	3	18	3	0	2·7
4·7	6	0·34	− 1·68	0·14	1	...	...	...	1	7	...	0	8	3	23	1	0	1	18	4	2	2·7

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
DUNFERMLINE, (Fife.) Dr J. MACDONALD, High School.	225	Apr.	29·500	52·4	38·9	45·6	...	65·0	19	32·8	4	44·9	3·0	·333	78
		May	29·630	56·6	41·2	48·9	...	67·0	29, 30	35·0	9	48·4	3·0	·269	80
		June	...	...	...	...	...	...	...	...	...	...	...	...	...
BUCHLYVIE, (Stirling.) Rev. JOHN A. MACDONALD.	125	Apr.	29·621	52·4	38·9	45·6	+1·2	61·0	19	31·0	19	45·1	2·3	·248	83
		May	29·733	56·3	41·5	48·9	−0·3	69·5	29	34·0	8, 12	48·4	2·2	·286	84
		June	29·868	64·4	46·9	55·6	+0·2	77·0	3, 5	39·0	28	55·0	2·9	·351	80
HELENSBURGH, (Dumbarton.) J. R. WILSON, Waterworks.	18	Apr.	...	51·7	39·1	45·4	+0·2	61·0	20	30·9	19	45·2	2·5	·245	82
		May	...	57·6	41·7	49·7	−0·4	71·2	31	32·5	4	50·1	2·7	·294	81
		June	...	64·9	47·0	56·0	+0·6	81·6	6	37·0	26	55·2	3·2	·347	80
DUMBARTON, (Dumbarton.) WILLIAM DENNY AND BROTHERS.	27	Apr.	29·730	52·9	40·3	46·6	+0·6	61·8	19	32·2	21	46·2	2·6	·246	79
		May	29·841	55·7	42·9	49·3	−1·0	69·0	31	36·0	4, 8	49·8	3·3	·278	79
		June	29·967	62·8	48·2	55·5	−0·7	72·6	6	40·4	26	55·0	3·0	·349	81
LOCHBUIE, (Argyll.) J. T. MANNARY, Gardener to the Maclaine of Lochbuie.	20	Apr.	29·718	50·1	42·5	46·3	+1·3	55·1	20	34·1	21	45·8	2·9	·245	80
		May	29·834	54·3	44·6	49·4	−0·6	69·0	31	39·2	20	49·2	3·2	·274	78
		June	29·956	61·7	48·6	55·2	+0·2	69·5	8	40·0	1	55·1	3·3	·343	79
AIRDS, (Argyll.) Colonel MACFIE, C.B., and ALEXANDER M'LACHLAN.	15	Apr.	29·716	50·9	39·7	45·3	−0·6	57·0	19	34·0	2, 5	45·5	3·0	·239	79
		May	29·840	55·7	42·3	49·0	−1·0	75·0	30	35·0	9	49·3	2·0	·301	86
		June	29·964	62·1	47·4	54·8	−0·2	74·0	5	39·0	30	55·0	2·9	·352	82
POLTALLOCH, Lochgilphead (Argyll.) D. S. MELVILLE, Gardener.	135	Apr.	29·600	51·8	39·6	45·7	+0·7	61·0	20	33·0	21	45·2	3·2	·231	77
		May	29·710	57·7	42·8	50·2	+0·4	76·0	31	36·5	4	49·6	3·4	·273	77
		June	29·843	65·2	...	...	...	76·0	5	...	...	56·0	3·5	·353	78
ROTHESAY, (Isle of Bute.) JAMES KAY, Barone Cottage.	116	Apr.	29·639	51·9	39·2	45·5	+0·3	60·0	19	30·0	19	44·5	2·2	·244	83
		May	29·750	57·5	42·1	49·8	0·0	72·0	30	35·5	8	48·2	2·5	·276	83
		June	...	...	...	...	...	...	...	...	...	...	...	...	...
GREENOCK, (Renfrew.) DANIEL MACALISTER, C.E., Waterworks.	238	Apr.	29·507	51·0	39·5	45·3	+0·8	60·7	20	32·9	10	45·4	3·0	·238	79
		May	29·615	55·4	41·8	48·6	−0·7	68·5	31	36·0	8	48·9	2·9	·277	80
		June	29·745	63·0	47·0	55·0	0·0	77·0	6	40·8	21	55·0	3·8	·330	76
PAISLEY, (Renfrew.) DONALD MACLEAN, The Coats Observatory.	107	Apr.	29·638	54·2	41·3	47·7	+2·7	64·0	19	37·0	19	46·3	3·0	·247	79
		May	29·754	58·4	42·6	50·5	−0·1	70·2	29	37·0	8	49·7	3·3	·276	78
		June	29·885	65·6	48·7	57·2	+0·9	82·0	5	42·3	28	55·7	3·9	·338	76
BOWHILL, (Ayr.) ALÉXANDER GILLESPIE, C.E.	978	Apr.	28·732	47·9	36·0	41·9	+1·1	58·0	19	30·0	9	41·6	1·6	·229	88
		May	29·822	53·7	37·5	45·6	−1·2	71·0	31	30·0	12, 14	46·2	2·8	·250	81
		June	28·972	60·4	45·0	52·7	+1·3	71·0	6, 7	39·0	27	52·3	3·1	·312	79
KILMARNOCK, (Ayr.) GLENFIELD & KENNEDY, Ltd.	74	Apr.	29·691	51·6	39·0	45·3	...	60·0	19	31·0	21	45·4	2·7	·244	81
		May	29·790	56·9	42·6	49·7	...	71·2	30	32·5	4	49·7	3·0	·283	80
		June	29·925	62·9	47·6	55·3	...	72·7	5	37·0	28	56·2	3·8	·347	76
GLASGOW, Belvidere Hosp., (Lanark.) Dr JOHN BROWNLEE.	54	Apr.	29·695	54·2	40·6	47·4	+1·5	66·5	19	35·0	19	46·6	2·5	·260	83
		May	29·810	57·2	42·9	50·0	−0·4	74·5	27	36·0	4	50·2	3·2	·284	79
		June	29·942	64·0	48·4	56·2	+0·0	78·8	5	39·9	28	55·8	3·8	·342	76
GLASGOW, Observatory, (Lanark.) Prof. BECKER, F.R.S.E.	184	Apr.	29·556	51·1	40·1	45·6	+0·4	60·2	19	33·5	9	45·1	2·9	·236	78
		May	29·671	56·3	43·1	49·2	−1·0	68·8	29	36·3	8	48·5	3·1	·268	79
		June	29·801	62·2	48·7	55·4	−0·5	75·8	5	44·2	26	54·4	3·8	·321	76
BOTHWELL, (Lanark.) Dr JOHN T. WILSON.	150	Apr.	...	51·9	39·4	45·6	...	63·0	19	32·0	21	45·2	2·3	·249	83
		May	...	57·0	41·4	49·2	...	72·0	29	32·0	4	49·0	2·8	·280	80
		June	...	63·5	46·9	55·2	...	77·8	5	37·0	26	54·5	3·3	·334	78

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
7·1	19	2·16	...	0·31	9	1	2	0	0	8	2	3	1	2	6	0	9	17	24	1	0	2·5
7·9	20	3·14	...	0·87	23	0	1	0	1	17	2	0	6	18	6	2	7	7	15	1	0	1·6
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4·8	27	6·77	+4·15	0·74	5	6	2	0	2	2	0	4	0	0	2	1	2	8	25	19	3	2·7
5·7	26	4·12	+1·47	0·78	23	2	3	0	0	4	1	0	0	5	15	11	2	8	16	2	3	2·6
4·3	16	2·49	−1·02	0·60	14	0	0	1	4	1	2	1	1	1	17	9	1	7	15	7	2	2·6
...	27	5·67	+3·14	0·71	2	...	...	...	...	...	...	...	6	4	10	2	2	4	28	4	0	...
...	21	4·01	+1·40	0·87	5	...	...	...	...	...	...	...	4	6	14	4	12	4	14	4	0	...
...	16	3·14	+0·29	0·65	14	...	...	...	...	...	...	...	10	4	8	6	8	4	18	2	0	...
...	25	5·44	+2·79	0·99	2	...	...	...	...	...	...	...	0	0	0	6	4	4	12	24	10	...
...	17	2·83	+0·07	0·59	5	...	...	...	...	...	...	...	0	6	8	2	4	2	0	12	28	...
...	13	1·83	−0·96	0·60	14	...	...	...	...	...	...	...	4	0	12	4	2	2	8	10	18	...
7·0	26	10·53	...	1·50	7	1	3	0	0	12	0	5	2	0	2	4	18	2	26	4	2	3·3
6·5	16	5·28	...	0·76	6	0	0	0	4	11	0	0	6	10	10	6	6	8	8	4	4	2·4
5·0	14	4·70	...	1·02	14	0	0	0	9	11	0	1	6	16	6	4	10	10	4	0	4	3·0
...	21	5·05	+2·35	...	...	...	...	...	...	...	...	...	7	0	1	3	10	10	28	1	0	2·8
...	13	5·44	+2·27	...	...	...	...	...	...	...	...	...	9	0	18	4	12	6	13	0	0	2·2
...	13	3·73	+0·16	...	...	...	...	...	...	...	...	...	5	0	17	4	13	2	19	0	0	3·0
8·0	23	3·74	+1·17	0·50	5	2	6	1	2	20	0	4	1	3	0	1	7	4	24	9	11	3·6
6·7	21	3·18	+0·55	0·83	23	0	0	0	0	8	0	0	1	4	3	5	5	8	11	4	21	2·4
5·5	14	2·60	−0·72	1·11	14	0	0	0	9	12	0	2	2	3	5	8	4	9	9	4	16	2·9
7·1	27	4·58	+1·91	0·58	9	5	2	0	2	14	0	3	2	0	2	6	8	8	28	3	3	2·6
7·6	22	3·02	+0·31	0·60	23	2	1	1	1	17	0	0	3	13	6	8	5	6	9	8	4	1·8
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7·4	27	7·49	+4·14	0·94	2	2	7	0	0	6	0	3	0	0	0	6	0	11	32	10	1	3·3
8·0	18	3·74	+0·47	0·56	5	0	1	0	0	14	0	0	0	8	9	12	0	13	9	10	1	2·4
6·2	16	3·22	−0·32	0·87	14	0	0	0	2	7	0	0	0	3	13	10	0	4	25	3	2	2·5
6·4	25	4·33	+2·45	0·93	2	2	8	1	2	9	2	3	3	0	2	2	6	14	17	12	4	2·6
7·2	20	2·38	+0·21	0·49	1	0	0	0	1	14	2	0	5	8	11	3	7	6	8	9	5	1·7
6·6	13	1·36	−0·89	0·33	14	0	0	0	4	13	2	0	7	6	11	5	9	1	13	6	2	1·7
7·7	25	5·13	...	0·41	5	...	...	...	0	4	...	...	3	0	2	5	7	15	21	7	0	...
7·5	17	2·35	...	0·65	24	...	...	...	0	3	...	...	1	12	5	8	15	10	8	3	0	...
6·6	11	1·95	...	0·72	15	...	...	...	0	10	...	...	5	4	9	5	13	6	12	6	0	...
5·4	23	4·25	...	0·50	2	2	1	0	0	0	0	4	1	0	0	4	4	22	23	6	0	2·4
5·1	18	3·01	...	0·57	23	1	0	0	0	1	0	0	1	2	15	6	2	22	14	0	0	3·2
4·4	13	1·36	...	0·32	12	0	0	0	3	0	0	0	1	2	14	4	4	10	23	2	0	1·9
6·9	23	3·63	+1·79	0·60	2	...	...	...	0	6	...	2	4	0	13	3	4	10	9	14	3	1·3
6·9	22	3·54	+1·30	0·60	1	...	...	...	1	11	...	0	4	8	24	2	2	3	1	13	5	1·1
6·5	13	1·45	−1·19	0·45	25	...	...	...	0	10	...	0	3	4	26	4	2	4	3	12	2	1·4
7·6	22	4·03	+2·02	0·62	2	2	2	1	0	8	0	3	0	0	2	2	3	15	22	5	11	1·6
8·5	19	3·42	+1·02	0·66	1	0	1	0	0	21	0	0	2	3	15	5	3	9	11	1	13	1·1
7·3	13	1·62	−1·19	0·44	25	0	0	0	1	16	0	0	0	5	19	1	6	6	15	0	8	1·3
...	19	4·18	+2·45	0·73	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	16	2·21	+0·48	0·39	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	9	1·15	−0·76	0·24	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.	°	°	°	°	°	°	°	°	°	°	inch.	%
LEADHILLS, (Lanark.) James M'Farlane.	1300	Apr.	...	45·9	33·8	39·9	...	58·0	18	28·0	2	40·5	2·1	·210	83
		May	...	53·7	38·9	46·3	...	64·0	29	31·5	2	45·4	3·1	·236	78
		June	...	58·9	43·0	51·0	...	75·5	4	35·0	7	52·0	3·4	·301	78
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. Copeland, F.R.S.E.	441	Apr.	29·268	51·7	39·2	45·5	+2·0	62·5	19	32·6	10	44·2	2·8	·231	79
		May	29·404	53·9	42·0	48·0	+0·5	68·7	16	32·8	8	47·2	2·5	·266	83
		June	29·539	58·5	46·7	52·6	−1·4	72·9	30	41·4	28	51·6	2·7	·314	81
CORSTORPHINE, (Edinburgh.) Dr T. N. Johnston, F.R.S.E.	165	Apr.	29·568	53·5	38·9	46·2	+2·2	64·2	19	33·9	9	45·0	3·1	·231	77
		May	29·706	56·1	41·3	48·7	+0·2	69·4	16	32·2	8	48·1	2·7	·271	81
		June	29·831	61·1	46·9	54·0	−1·1	74·2	30	39·0	25	52·4	2·9	·319	81
LEITH, (Edinburgh.) James Bolam, Navigation School, and George Redpath.	76	Apr.	29·661	53·4	41·0	47·2	+2·0	65·4	19	35·5	9	46·8	3·6	·239	75
		May	29·792	55·2	43·6	49·4	−0·1	70·6	16	37·1	8	49·1	3·0	·277	79
		June	29·924	60·1	48·6	54·3	−1·6	75·3	30	42·7	28	53·6	3·3	·323	79
DALKEITH, (Edinburgh.) J. Whytock, Gardener to the Duke of Buccleuch.	190	Apr.	29·540	53·4	38·8	46·1	+0·1	64·0	19	34·5	9	45·6	3·1	·238	79
		May	29·672	56·7	43·8	50·2	+0·8	72·5	16	36·5	7	49·0	3·0	·276	79
		June	29·803	61·8	48·7	55·2	−0·7	77·0	30	43·0	11	53·6	3·0	·330	80
SMEATON, (Haddington.) John Black, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Apr.	29·633	55·2	38·6	46·9	+0·4	66·0	19	33·0	4	46·9	3·4	·245	78
		May	29·771	57·7	42·7	50·2	−0·3	70·0	16, 24	35·0	11	50·4	3·1	·289	80
		June	29·904	64·4	46·4	55·4	−1·4	73·0	4, 30	40·0	28	54·8	3·1	·345	80
MARCHMONT, (Berwick.) John A. Wood, Gardener.	500	Apr.	29·215	53·1	36·7	44·9	+1·0	62·0	19	30·0	2, 10	45·2	3·3	·230	76
		May	29·340	55·4	40·7	48·0	−0·2	70·0	16	34·0	8, 20	47·8	2·8	·265	80
		June	29·484	60·2	45·4	52·8	−1·3	74·0	30	41·0	5	52·7	2·8	·325	81
DUNS CASTLE, (Berwick.) James Redpath, Gardener to F. S. Hay.	500	Apr.	29·214	53·3	37·4	45·4	+1·2	62·0	19	31·0	12	45·4	3·0	·238	79
		May	29·338	56·1	41·2	48·6	+0·4	70·0	16, 19	32·0	20	47·8	2·8	·265	80
		June	29·477	61·1	46·1	53·6	−0·6	73·0	30	39·0	6	52·5	2·9	·317	81
STOBO CASTLE, (Peebles.) William Young, Gardener to Sir B. T. G. Montgomery, Bart.	600	Apr.	29·111	51·5	36·5	44·0	+0·5	63·0	19	29·0	19	43·6	2·4	·232	82
		May	29·228	56·5	39·3	47·9	−0·6	71·0	16	30·0	20	48·0	2·5	·274	83
		June	29·369	62·2	43·6	52·9	−1·9	78·0	5	35·0	28	53·3	2·4	·341	83
BROOMLANDS, (Roxburgh.) James Brunton.	205	Apr.	29·538	55·4	38·1	46·7	+1·6	63·0	19	30·0	12	46·0	3·4	·236	77
		May	29·670	58·5	41·4	49·9	+0·4	72·0	16	34·0	11, 20	49·2	3·1	·276	79
		June	29·805	63·0	46·6	54·8	−0·8	66·0	4	41·0	26	53·9	3·1	·341	80
WOLFELEE, (Roxburgh.) William Gordon, Gardener to J. T. S. Elliot.	537	Apr.	29·161	53·6	37·1	45·3	+2·2	63·0	18, 19	30·0	20, 21	44·0	2·6	·232	80
		May	29·292	57·5	40·0	48·7	−0·4	74·0	16	35·0	7	47·9	2·5	·273	83
		June	29·434	62·8	46·1	54·4	−0·6	76·0	4, 30	41·0	15	53·4	2·8	·332	82
DRUMLANRIG, (Dumfries.) David Inglis, Gardener to the Duke of Buccleuch.	191	Apr.	29·585	52·9	38·0	45·5	+1·5	63·0	19	30·0	17	45·3	2·7	·243	80
		May	29·680	56·9	40·8	48·9	−0·9	70·0	31	30·0	1	49·0	3·0	·276	79
		June	29·812	64·0	45·5	54·8	−1·0	78·0	5	35·0	8	54·5	3·3	·334	78
DUMFRIES, (Dumfries.) Rev. William Andson.	60	Apr.	29·732	54·5	40·3	47·4	+1·4	67·5	19	32·5	1	46·3	3·4	·239	76
		May	29·829	58·2	44·3	51·3	−0·1	72·0	17, 24	33·8	8	50·7	3·2	·291	79
		June	29·964	66·1	47·9	57·0	−1·9	81·7	5	41·0	18	56·8	3·6	·359	77
CARGEN, (Kirkcudbright.) Alex. Peacock, Gardener to Colonel Dudgeon.	85	Apr.	...	...	...	...	...	64·0	19	34·0	12	...	...	...	...
		May	...	...	...	...	...	69·5	30	33·0	20	...	...	...	...
		June	...	...	...	...	...	77·2	5	40·0	27	...	...	...	...

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	25	6·97	...	1·91	2	3	0	0	...	...	...	8	...	...	...	...	...	...	...	...	...	...
...	20	3·63	...	0·45	5	1	0	0	...	...	...	0	...	...	...	...	...	...	...	...	...	...
...	13	2·73	...	0·73	14	0	0	2	...	...	...	0	...	...	...	...	...	...	...	...	...	...
5·7	17	1·69	+0·22	0·30	9	2	1	0	1	4	2	3	0	0	1	4	9	15	28	1	2	3·9
7·1	21	2·88	+1·12	0·60	8	0	1	0	0	13	3	1	5	8	10	3	13	2	19	0	2	3·2
6·1	12	2·12	+0·19	0·73	1	0	0	0	2	8	6	1	3	17	9	2	5	6	15	1	2	3·0
...	21	2·51	...	0·44	9	1	0	0	...	...	0	4	5	0	6	0	1	0	46	0	2	2·6
...	25	3·27	...	0·47	5	0	1	0	...	...	0	0	1	1	23	0	5	0	27	1	4	2·1
5·7	15	1·89	...	0·64	1	0	0	0	7	9	0	0	3	1	21	0	1	0	31	0	3	2·5
6·4	21	1·84	+0·12	0·25	3, 9	2	2	0	2	11	0	3	0	3	3	1	3	8	40	0	2	4·0
7·5	19	3·08	+1·22	0·71	24	0	1	0	0	14	0	0	4	15	8	3	3	9	14	2	4	3·5
6·7	13	2·27	+0·26	0·70	25	0	0	0	5	17	0	0	3	11	14	2	4	5	15	3	3	3·2
5·0	14	0·75	...	...	...	3	0	0	4	5	0	5	0	1	0	5	12	25	15	2	0	2·7
5·9	15	2·30	...	...	...	0	2	1	1	6	0	0	2	13	5	11	7	17	4	3	0	2·0
4·6	10	1·50	...	...	...	0	0	0	6	3	0	2	0	17	1	0	1	22	12	7	0	1·3
5·0	8	0·79	−0·76	0·16	6	1	0	0	1	0	0	6	0	1	4	5	17	17	12	4	0	...
5·3	11	3·24	+1·48	0·60	6, 24	0	0	1	0	5	1	0	6	9	13	0	9	5	9	1	0	...
4·9	10	2·13	+0·22	1·02	24	0	0	0	3	3	5	1	2	5	13	0	16	16	7	1	0	...
5·2	18	2·04	−0·23	0·35	6	4	4	0	6	9	0	6	2	1	5	1	2	17	29	3	0	3·0
6·5	13	2·83	+0·47	0·44	8, 27	0	0	0	1	12	0	0	12	5	15	8	1	8	12	1	0	4·6
6·3	9	2·31	−0·33	1·28	24	0	0	3	5	12	0	1	9	15	8	0	1	16	11	0	0	3·2
...	20	1·86	−0·21	0·32	6, 15	...	...	...	...	...	...	4	1	2	4	10	4	24	11	4	0	4·4
...	19	3·04	+0·96	0·46	5	0	0	2	...	...	0	0	8	3	7	11	13	10	4	6	0	2·5
6·4	13	2·15	−0·16	1·23	24	0	0	2	4	10	0	1	4	4	6	3	7	14	18	4	0	1·0
6·5	16	2·70	+0·90	...	...	1	2	1	2	11	0	3	0	0	3	2	10	5	40	0	0	2·7
7·3	15	2·00	+0·29	...	...	1	3	0	2	13	0	0	14	3	6	1	9	7	22	0	0	1·8
6·2	9	3·00	+1·07	...	...	0	0	0	6	13	0	1	9	3	12	2	15	6	11	2	0	2·1
5·2	18	0·96	−0·74	0·12	2, 9	1	1	0	3	2	0	0	0	0	6	0	5	34	14	0	1	1·9
6·4	22	2·65	+0·81	0·54	27	0	0	0	0	4	0	0	1	3	17	1	0	12	24	1	3	1·4
5·9	12	2·14	+0·08	0·95	24	0	0	0	1	4	0	0	2	3	23	0	1	19	8	0	4	1·7
6·6	21	3·44	+1·02	0·86	3	...	...	0	2	10	...	1	0	2	0	3	6	9	21	19	0	1·7
4·9	13	2·65	+0·11	0·71	28	1	0	0	7	6	0	0	2	14	1	4	1	17	11	12	0	0·9
5·5	11	2·76	+0·42	0·68	24	0	0	0	4	7	0	0	5	14	0	1	2	16	12	10	0	0·8
...	23	4·74	+2·36	0·66	5	1	1	0	...	...	0	3	3	2	0	3	7	18	1	26	0	...
...	20	3·06	+0·69	0·65	23	0	0	0	...	...	0	0	3	9	0	8	10	19	3	10	0	...
...	14	2·64	+0·10	0·57	14	0	0	3	...	...	0	0	2	9	1	2	11	13	8	14	0	...
...	22	2·88	+0·66	0·52	2	0	0	0	...	...	0	3	0	2	2	4	5	20	18	9	0	2·8
...	16	2·08	−0·25	0·53	1	0	0	0	...	...	0	0	3	9	9	8	14	7	8	4	0	3·4
...	13	2·03	−0·37	0·55	24	0	0	1	...	...	0	0	1	7	8	13	6	11	6	8	0	2·4
...	19	4·38	+2·02	0·86	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	13	2·48	−0·09	0·68	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	9	2·36	−0·22	0·72	24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.	°	°	°	°	°	°	°	°	°	°	inch.	%
CALLY, (Kirkcudbright.) **Wm. Thomson**, Gardener to H. G. Murray Stewart of Broughton.	120	Apr.	29·690	53·7	39·9	46·8	+1·0	62·7	19	34·5	21	46·3	2·1	·265	85
		May	29·762	57·2	41·0	49·1	−1·3	71·3	30	31·0	8,20	49·1	2·7	·284	81
		June	29·895	65·8	46·1	55·9	+0·2	78·0	4	35·0	28	55·0	3·6	·335	77
BEN NEVIS OBSERVATORY, (Inverness.) R. T. **Omond**, F.R.S.E., and **Angus Rankin**.	4407	Apr.	25·124	31·2	24·4	27·8	+0·2	35·0	28	19·6	9	27·7	0·1	·149	98
		May	25·303	35·9	28·1	32·0	−1·0	50·3	30	18·0	8	32·2	0·7	·168	91
		June	25·470	43·4	35·1	39·3	−0·4	55·0	5	27·6	27	39·5	1·6	·211	87

BRIGHT SUNSHINE.

STATIONS.		1904.	SUNSHINE.		
		Months.	Total Observed.	Difference from Average.	Per centage of Possible.
			hours.	hours.	%
DEERNESS,	(Orkney.)	Apr.	144·3	− 4·8	34
		May	189·6	+ 9·6	37
		June	167·9	+17·1	31
INVERNESS,	(Inverness.)	Apr.	126·0	+13·0	29
		May	175·5	+30·0	35
		June	187·4	+42·4	35
FORT AUGUSTUS,	(Inverness.)	Apr.	89·6	−26·0	21
		May	133·3	− 1·3	26
		June	164·2	+33·8	31
FORT WILLIAM,	(Inverness.)	Apr.	77·8	−60·0	19
		May	141·4	−35·9	28
		June	224·8	+49·3	43
CRATHES,	(Kincardine.)	Apr.	164·7	...	39
		May	159·9	...	32
		June	216·3	...	41
BALRUDDERY,	(Forfar.)	Apr.	157·2	...	37
		May	154·8	...	31
		June	195·2	...	37
PAISLEY,	(Renfrew.)	Apr.	140·5	− 2·5	33
		May	138·7	−31·3	28
		June	170·9	+13·9	33
GLASGOW,	(Lanark.)	Apr.	124·5	− 2·6	30
		May	128·1	−38·5	26
		June	187·6	+27·2	36
EDINBURGH,	(Edinburgh.)	Apr.	144·6	−10·3	34
		May	136·5	−33·5	27
		June	175·2	+ 3·6	34
DUNS CASTLE,	(Berwick.)	Apr.	155·5	...	38
		May	130·1	...	26
		June	157·2	...	30
MARCHMONT,	(Berwick.)	Apr.	170·3	+29·1	41
		May	148·1	−36·5	30
		June	177·3	− 0·7	34
BEN NEVIS OBSERVATORY,	(Inverness.)	Apr.	18·5	−59·0	4·3
		May	80·2	− 3·4	15·7
		June	187·3	+57·5	35·3

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0-10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0-12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	23	3·79	+ 1·03	0·37	4, 28	0	1	1	...	...	0	4	8	3	1	7	4	13	7	16	1	2·1
...	20	3·03	+ 0·11	0·70	5	0	1	1	...	...	0	0	0	11	5	13	3	16	1	12	1	1·4
...	12	1·75	− 1·25	0·41	14	0	0	0	...	...	0	0	3	9	7	9	8	10	5	9	0	1·4
9·5	28	26·57	+17·18	2·46	3	28	4	0	2	25	27	8	4	10	4	6	6	8	12	4	6	2·6
8·7	21	10·88	+ 3·21	1·58	18	16	2	1	3	24	26	3	12	8	4	12	12	2	6	4	2	2·2
6·8	16	9·35	+ 1·73	1·60	22	4	4	0	4	14	16	3	7	3	5	10	9	6	7	5	8	1·7

UNDERGROUND TEMPERATURE.

STATIONS.		1904.	UNDERGROUND TEMPERATURE. Depth in Inches.				
		Months.	3	12	22	36	48
			°	°	°	°	°
DUNROBIN,	(Sutherland.)	Apr.	44·2	45·4	44·8	...	...
		May	48·2	49·6	49·1	...	...
		June	54·6	56·2	55·5	...	...
ARBROATH,	(Forfar.)	Apr.	43·7	42·5	42·1	...	...
		May	47·0	46·4	46·0	...	...
		June	53·6	52·7	51·6	...	...
OCHTERTYRE,	(Perth.)	Apr.	42·7	43·7	43·3	42·8	42·6
		May	47·8	48·4	47·4	46 ·	45·6
		June	54·6	55·2	53·7	51·2	50·0
POLTALLOCH,	(Argyll.)	Apr.	45·4	45·8	44·5	...	...
		May	51·5	51·0	49·6	...	...
		June	58·6	59·1	57·6	...	...
PAISLEY,	(Renfrew.)	Apr.	45·3	44·3	45·1	...	...
		May	49·1	48·5	48·9	...	...
		June	55·2	54·7	54·6	...	...
CORSTORPHINE,	(Edinburgh.)	Apr.	44·8	44·0	43·5	...	...
		May	49·8	49·5	48·6	...	...
		June	55·9	54·9	54·7	...	...
SMEATON,	(Haddington.)	Apr.	45·4	44·7	44·0	...	...
		May	52·2	51·7	50·7	...	...
		June	58·1	57·8	56·2	...	...
MARCHMONT,	(Berwick.)	Apr.	43·2	43·0	43·6	...	...
		May	49·0	48·5	48·5	...	...
		June	55·1	54·2	54·1	...	...

Continuation of page 249.]

the sheltered thermometer at Lednathie to 27°·0 on the night of 11th. Thereafter higher temperatures prevailed as a rule, with cold weather about the 20th when frost in shade occurred at Braemar, Stobo and Cally, and again about 24th. Except in South Eastern counties, where the maximum occurred on 16th, highest temperatures were noted towards end of month with readings frequently above 70°·0. The absolute maximum was 77°·0 at Kingussie on 30th, and the minimum 27°·0 at Lednathie on 12th.

The mean rainfall was 3·00 inches, or 31 per cent. above the normal. Except at a few places in North East and extreme South there was a decided excess. The amount at Invergarry was more than twice the normal, whilst at Fort-Augustus and Fort-William, and in parts of the Lothians and Peeblesshire the excess was from 60 to 80 per cent. On the other hand a good many stations had an excess of less than 15 per cent. Rain was general in all districts from 1st to 9th, Fort-William reporting 1·18 inch on 1st and falls exceeding half an inch occurring at many places on 1st, 5th, and 8th. From 12th to 18th rain fell on every day at some Western places, and another rainy spell occurred from 23rd to 27th, Stronvar registering 0·92 inch on 23rd. On Ben Nevis the amount was 10·88 inches, or 3·21 inches above the average.

The weather was very unsettled and of a wintry character during the first ten days, snow, sleet or hail occurring at many places. Hail occurred at several places also on 17th.

Thunder was noted at Fort-William on 1st, 13th and 26th, at Lednathie on 16th, 24th and 26th, at Braemar on 1st and 26th, at Ben Nevis on 1st, at Aberdeen on 17th, and at several other places on some one of these days.

Auroras were observed at Rothesay on 2nd and Ben Nevis on 6th.

Bright sunshine was very deficient in most districts.

JUNE 1904—

Hence the month of JUNE 1904 was characterised by a high mean barometric pressure; a slightly low mean temperature, with an average mean daily range; a slightly low mean humidity; a low mean rainfall, with one less than than the mean number of rainy days; a considerable excess of winds of average force from North-East and East.

The mean barometric pressure was 29·996 inches, or 0·054 inch above the normal. Lowest readings were recorded on 15th and 16th, whilst at Leith the sea-level pressure was above 30 inches from 2nd to 12th, from 21st to 23rd, and from 27th to 30th, the extremes there being 30·393 inches on the morning of the 6th, and 29·376 inches on the morning of the 15th.

The mean temperature was 54°·3, or 0°·6 below the normal, the days being 0°·8 and the nights 0°·4 below their respective averages. At a few stations temperature was slightly above the normal, at the majority the differences were small, whilst at Fort-Augustus, Dumfries and at several places on the East Coast, there was a deficiency of more than 1°·0. At most stations highest readings were recorded between 2nd and 6th, when temperature in Western districts was much above the average, but in the South-East the 30th was the warmest day, Edinburgh and Leith having readings as high as 70°·0 only on that day, whilst at Montrose, Arbroath and Broomlands the maximum for the month was below 70°·0. The coldest periods were from 10th to 12th, and from 26th to 28th. On 26th, 27th and 28th ground frost occurred at Fort-William, and on 28th frost in shade at Lairg. The absolute maximum was 82°·0 at Paisley on 5th, and the minimum 31°·9 at Lairg on 28th.

The mean rainfall was 1·96 inch, or 24 per cent. below the normal. In the Edinburgh district, East Lothian, Peeblesshire, and at Stronvar, Fort-William, Fort-Augustus and Glencarron there was a moderate excess, but in nearly all other districts there was a decided shortage. Thus Dundee and Montrose recorded hardly more than a quarter of the average, and Aberdeen, Lednathie and Arbroath, less than one half. At many places the month was the driest June since 1891, one or two East Coast stations having only 7 rainy days. On the 1st heavy falls were reported from many places, followed by a rainless spell in all districts until the 12th, when unsettled and rainy weather prevailed for a few days. From 27th to 29th hardly any rain fell. The heaviest falls of the month occurred on 1st, 14th, 16th and 24th, the largest amounts being 2·31 inches at Glencarron on 16th, 1·43 inch at Stronvar on 14th, and 1·28 inch at Marchmont on 24th. At Inverness a fall of 0·71 inch on 1st was about half the total for the month, and in Berwickshire fully half the total was registered on the 24th. On Ben Nevis the monthly amount was 9·35 inches, or 1·73 inch above the normal.

From 15th to 17th the weather was very stormy.

Thunder was reported from Marchmont and Drumlanrig on 24th, 25th and 26th, and from a few places on one day.

Bright sunshine was about the average in South-East, but greatly above in West. Early in the month dry North-East winds prevailed with somewhat cloudy skies on the East Coast, and brilliant sunshine on the West, Fort-William recording 97 hours for the week ending 11th.

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 30th SEPTEMBER 1904.

By Dr Buchan, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 60 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N.; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION = 279 Feet.

1904.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
July	29·964	64·5	50·1	57·3	84·7	35·0	56·9	3·2	·370	80	14	2·11	6·7	*
Aug.	29·908	63·7	48·4	56·0	84·5	31·2	55·6	2·8	·365	82	20	4·58	6·7	*
Sep.	30·011	60·4	45·4	52·9	72·6	29·1	52·2	2·5	·326	83	13	3·15	6·0	*

1904.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS										Thunder heard.	
	3 Inches	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
July	58·8	58·5	57·5	53·8	52·8	2	6	10	7	8	12	11	3	3	2·1	40	2
Aug.	57·3	57·8	57·5	55·3	54·5	5	4	4	4	8	12	12	9	4	1·9	32	2
Sep.	52·9	54·8	55·0	54·6	54·4	2	4	9	8	9	10	8	5	5	2·3	3	1

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these results are compared with the averages of 1856–1900, during the same months, they show the following characteristics and differences :—

JULY 1904—

Mean Barometric Pressure, 29·964 inches; greater than the average of 1856–1900 by 0·078 inch.
Mean Temperature, 57°·3; greater by 0°·1.
Mean Daily Range of Temperature, 14°·4; less by 0°·5.
Mean Humidity, 80 per cent.; less by 2 per cent.
Rain, Number of Days, 14; less by 1 day.
Rain, Depth in Inches, 2·11; less by 1·04 inch.
Wind, Mean Force (on Scale of 0–12), 2·1; less by 0·3.
Wind, Direction of: a 5 days' excess of winds from between N.E. and S.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·7; greater by 0·1.

AUGUST 1904—

Mean Barometric Pressure, 29·908 inches; greater than the average of 1856–1900 by 0·050 inch.
Mean Temperature, 56°·0; less by 0°·6.
Mean Daily Range of Temperature, 15°·3; greater by 0°·8.
Mean Humidity, 82 per cent.; less by 2 per cent.
Rain, Number of Days, 20; greater by 4 days.
Rain, Depth in Inches, 4·58; greater by 0·96 inch.
Wind, Mean Force (on Scale of 0–12), 1·9; less by 0·4.
Wind, Direction of: a 2 days' excess of winds from N.W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·7; greater by 0·2.

SEPTEMBER 1904—

Mean Barometric Pressure, 30·011 inches; greater than the average of 1856–1900 by 0·168 inch.

Mean Temperature, 52°·9; greater by 0°·1.

Mean Daily Range of Temperature, 15°·0; greater by 1°·0.

Mean Humidity, 83 per cent.; less by 2 per cent.

Rain, Number of Days, 13; less by 3 days.

Rain, Depth in Inches, 3·15; less by 0·45 inch.

Wind, Mean Force (on Scale of 0–12), 2·3; being the average.

Wind, Direction of: a 6 days' excess of winds from a S.E. quarter.

Hours of Sunshine, *v.* p. 62.

Mean Amount of Cloud, 6·0; less by 0·3.

JULY 1904—

Hence the month of JULY 1904 was characterised by a rather high mean barometric pressure; an average mean temperature, with a fractionally low mean daily range; a low mean rainfall, with one less than the average number of rainy days; a large excess of winds of moderate force from between N.E. and S.

The mean barometric pressure was 29·964 inches, or 0·078 inch above the normal. At Leith the sea-level pressure was above 30 inches from 7th to 13th, from 17th to 20th, and on 28th, the extremes there being 30·368 inches on the morning of the 18th, and 29·574 inches on the morning of 1st.

The mean temperature was 57°·3, or 0°·1 above the normal, the days being 0°·2 below and the nights 0°·3 above their respective averages. In Perthshire, along the East Coast north of the Tay, and in the Orkneys and Shetlands, temperature was below the normal, whilst in the extreme South and at Fort-William, Glencarron and Kingussie, there was an excess of fully 1°·0. Nearly one-half of the stations were within 0°·5 of their averages. In most Eastern districts there was a complete absence of hot weather, the maximum at Leith remaining below 60°·0 from 23rd to 28th, and reaching 70°·0 only on 13th and 29th. In the West and South higher temperatures ruled, and on the 11th, Rothesay, Dumfries, and other stations had maxima of 80°·0 or over. Lowest temperatures were noted at most places on 4th, 7th, or 18th, Braemar reporting ground frosts on 4th and 18th. The absolute maximum was 84°·7 at Dumfries on 11th, and the minimum 35°·0 at Lairg on 8th.

The mean rainfall was 2·11 inches, or 33 per cent. below the average. Fort-William and one or two other stations had a slight excess, but over the greater part of the country there was a decided shortage, most Eastern and Northern districts having less than half their normal amounts. Several aggregates of less than 1 inch were reported, the total of 0·81 inch at Inverness being little more than one-quarter of the average. The weather from 1st to 6th was unsettled and wet, while but little rain fell from 7th to 11th, from 17th to 19th, and from 24th to 30th. Very heavy falls were reported on 15th, especially in Southern districts, Cargen registering 1·78 inch on that day, Leadhills 1·63, and Dumfries 1·40, or fully half the total for the month. On Ben Nevis the monthly amount was 8·03 inches, or 2·63 inches above the average of twenty years.

On 16th, rivers in the Southern counties were in high flood.

Thunderstorms of moderate intensity occurred at Lednathie on 2nd, 13th, 22nd and 31st, and in most districts on one or more of these days.

Fog was prevalent on the East Coast on 11th, and from 23rd to 25th.

Sunshine was deficient at Deerness, Glasgow, Paisley, and on the East Coast, Edinburgh reporting none from 23rd to 27th during a spell of light N.E. winds. Fort-William and Ben Nevis had a large excess, the West Coast enjoying brilliant sunshine on 11th and 12th, from 17th to 19th, and from 26th to 28th.

AUGUST 1904—

Hence the month of AUGUST 1904 was characterised by a rather high mean barometric pressure; a slightly low mean temperature, with a slightly low mean daily range; a rather low mean humidity; a high mean rainfall, with a large number of rainy days; an excess of moderate winds from N.W.

The mean barometric pressure was 29·908 inches, or 0·050 inch above the normal. At Leith the sea-level pressure was above 30 inches on 2nd and 3rd, on 8th and 9th, on 20th and 21st, from 23rd to 25th, and on 28th and 29th, the extremes there being 30·167 inches on evening of 23rd, and 29·255 inches on morning of 15th.

The mean temperature was 56°·0, or 0°·6 below the normal, the days being 0°·2 and the nights 1°·0 below their respective averages. Temperature was decidedly above the average in the Edinburgh district, but slightly below at most stations, the greatest deficiencies being 1°·6 at Cally and 1°·9 at Peterhead and Fort-Augustus. The month opened with a spell of warm weather, with maxima for the month on 4th at fully one-half of the stations. Thereafter weather becoming steadily colder set in, until towards the end of the month, with lowest readings on 20th, 21st or 25th. On 25th, Lairg and Kingussie reported frost in shade, and Braemar a reading of 24°·5 by a thermometer exposed on grass. The week ending 27th had a mean temperature from 3°·0 to 4°·0 below the average. High temperatures occurred again from 28th to 30th. The absolute maximum was 84°·5 at Tillypronie on 28th, the next highest reading being 79°·0 at Broomlands on 30th, and at Dumfries on 3rd and 29th. The minimum was 31°·2 at Kingussie on 25th.

The mean rainfall was 4·58 inches, or 27 per cent. above the average. Aberdeen had a deficiency of 28 per cent., and at several stations the amount differed little from the normal, but in general there was a decided excess which was more than 50 per cent. in the counties of Edinburgh, East Lothian and Forfar. The number of rainy days was large, Glencarron reporting 28. Heavy falls occurred in the West on 1st, whilst in general the rainiest periods were from 4th to 7th and from 9th to 18th. A large number of stations had falls exceeding an inch on some one day. Thus Dundee reported 1·40 inch on 4th, Leadhills 1·61 on 6th, Rothesay 1·27 on 10th, Leith 1·29 on 11th, Stronvar 1·26 on 13th, Fort-William 1·52 on 14th, and Edinburgh 1·15 on 17th. In Eastern and Southern districts but little rain fell from 27th to 30th. On Ben Nevis the monthly amount was 11·69 inches, or 0·95 inch below the average.

On morning of 6th a thunderstorm was general on the East Coast, whilst Duns and Smeaton reported thunder on 6 days.

Bright sunshine was below, or about equal to the average in the North and East, but above it in the West, Fort-William having about one-fourth more than its normal amount.

SEPTEMBER 1904—

Hence the month of SEPTEMBER 1904 was characterised by a high mean barometric pressure; an average mean temperature, with a rather high mean daily range; a rather low mean humidity; a rather low mean rainfall, with comparatively few rainy days; a marked excess of winds of average force from a S.E. quarter.

The mean barometric pressure was 30·011 inches, or 0·168 inch above the normal. At Edinburgh the sea-level pressure was above 30 inches continuously from 15th to 24th, and also on 1st, 3rd, 4th, from 10th to 12th, and from 27th to 29th. The monthly range was much below the average, the Edinburgh extremes being 30·389 inches on morning of 23rd, and 29·675 inches on morning of 30th.

The mean temperature was 52°·9, or 0°·1 above the normal, the days being 0°·6 above and the nights 0°·4 below their respective averages. Temperature was above the average in the Edinburgh district, but slightly below at most Eastern stations, whilst towards the North-West there was an excess, that at Glencarron being 1°·9. Many places, however, differed but little from their averages. No remarkable fluctuations of temperature occurred, both maxima and minima falling at most places between 14th and 22nd, when the weather was controlled by a high-pressure area. A few stations in North and South-East reported readings above 70°·0 on 17th, 18th or 19th, whilst frost in shade was registered at Braemar on 14th, 21st and 28th, at Kingussie on 14th, 15th and 29th, at Lairg on 21st and 28th, and at Drumlanrig on 21st. The absolute maximum was 72°·6 at Lairg on 19th, and the minimum 29°·1 at Kingussie on 14th.

The mean rainfall was 3·15 inches, or 13 per cent. below the normal. At Fort-William and in Central Perthshire there was a decided, and in the counties of Stirling, Dumbarton, Renfrew, Bute and Wigtown, a moderate excess. But over the country generally there was a well-marked shortage, East Lothian and the Border Counties having less than half the average amount, and the high stations on the Grampians a deficiency of about 40 per cent. Hardly any rain fell from 13th to 23rd, except in some Central and Western districts on 16th or 17th, and the number of rainy days was unusually small, the totals at most stations being largely accounted for by heavy falls on one or more days. Thus Fort-William, with the large monthly total of 9·58 inches, reported 1·45 on 4th, and 1·98 on 5th, whilst Greenock had falls of 1 inch or over on 2nd, 5th and 29th. The first few days of the month were very wet, and on the 6th the Perthshire rivers were in full flood, Stronvar having registered 1·02 inch on 4th, and 2·36 on 5th. At Edinburgh the aggregate for the 24th and 25th was 0·85 inch, or more than half the total for the month. On Ben Nevis the monthly amount was 13·15 inches, being 1·71 inch below the average.

Thunder was heard at Glencarron on 3rd, at Paisley on 6th, and at Bucklyvie on 16th.

The weather was stormy in most districts on 4th and 5th.

Bright sunshine was decidedly above the average, the greater part being registered during 2nd and 3rd weeks of the month.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	July	29·660	...	...	...	...	...	...	...	...	51·3	...	...	...
		Aug.	29·598	...	...	...	...	...	...	...	...	52·4	...	...	...
		Sep.	29·758	...	...	...	...	...	...	...	...	52·1	...	...	...
LERWICK, (Shetland.) G. ALLISON, Harbour Master.	30	July	29·880	57·7	49·4	53·6	...	62·0	30	46·0	18	52·8	2·3	·338	85
		Aug.	29·818	58·1	49·6	53·8	...	64·0	1, 2	43·0	25	53·3	2·4	·341	83
		Sep.	29·956	56·6	49·9	53·2	...	59·0	4	45·0	4, 12	52·5	2·0	·341	87
DEERNESS, (Orkney.) M. SPENCE, Schoolhouse.	172	July	29·752	57·6	49·2	53·4	−0·2	63·5	30	44·8	18	53·2	2·2	·345	85
		Aug.	29·687	57·5	49·0	53·3	−0·2	65·0	4	44·0	18	53·2	1·8	·355	87
		Sep.	29·790	55·9	48·7	52·3	+1·1	59·6	7, 19	44·5	23	52·6	1·9	·345	87
KIRKWALL, (Orkney.) J. S. BEGG, S.S.C.	30	July	29·898	61·8	45·7	53·8	−1·2	69·0	18, 30	38·0	28	54·3	2·3	·357	84
		Aug.	29·837	59·6	48·3	54·0	−0·9	71·0	4	44·0	8, 21	54·0	2·0	·360	86
		Sep.	29·957	58·0	48·1	53·1	+0·7	67·0	19	39·1	22	53·4	2·1	·350	86
DUNROBIN, (Sutherland.) D. MELVILLE, Gardener, Dunrobin Castle.	16	July	29·907	60·9	50·7	55·8	−0·5	72·0	30	44·0	19	55·4	2·7	·363	83
		Aug.	29·854	61·3	48·7	55·0	−1·2	69·0	4	38·0	25	55·3	3·0	·354	81
		Sep.	29·950	58·8	48·6	53·7	+0·8	68·5	18	42·0	14	53·5	2·9	·331	81
LAIRG, (Sutherland.) Rev. JOHN K. MACLEAN.	390	July	29·508	66·4	47·7	57·0	+0·1	76·0	12, 30	35·0	8	55·2	3·0	·352	81
		Aug.	29·460	64·7	45·8	55·2	0·0	76·0	3	32·0	25	53·6	2·6	·339	82
		Sep.	29·550	62·3	43·6	53·0	+1·0	72·6	19	30·0	22	50·9	2·4	·313	85
GLENCARRON, (Ross.) D. D. MUNRO.	504	July	29·384	64·0	48·9	56·4	+1·4	78·9	12	41·5	18	55·3	2·9	·356	81
		Aug.	29·350	60·7	47·5	54·1	−0·9	77·6	30	36·5	25	53·8	2·9	·335	80
		Sep.	29·425	60·8	45·4	53·1	+1·9	70·0	18	36·4	21	51·6	3·4	·297	77
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	July	29·744	...	...	...	...	...	...	...	...	56·5	...	...	...
		Aug.	29·724	...	...	...	...	...	...	...	...	55·3	...	...	...
		Sep.	29·771	...	...	...	...	...	...	...	...	53·4	...	...	...
KINGUSSIE, (Inverness.) Dr WALTER DE WATTEVILLE.	828	July	29·066	66·1	47·5	56·8	+1·5	81·9	11	36·1	18	56·8	4·1	·348	75
		Aug.	29·001	62·2	46·1	54·1	−0·2	72·5	4	31·2	25	54·2	3·3	·331	78
		Sep.	29·094	59·7	42·6	51·2	+1·3	67·2	19	29·1	14	50·4	2·9	·294	81
INVERNESS, (Inverness.) THOS. WALLACE, High School.	114	July	29·810	64·9	50·5	57·7	+0·8	75·0	30	45·0	25, 27	58·5	4·0	·373	74
		Aug.	29·761	63·6	50·4	57·0	+0·3	74·0	4	38·2	25	57·2	3·3	·372	79
		Sep.	29·858	61·0	47·9	54·4	+1·4	68·9	20	38·8	22	54·2	3·3	·330	78
FORT AUGUSTUS, (Inverness.) Rev. CYRIL VON DIECKHOFF, St Benedict's Priory.	78	July	29·862	63·5	50·1	56·8	−0·7	75·0	12	41·1	18, 27	56·4	3·2	·364	80
		Aug.	29·814	62·9	48·4	55·6	−1·9	74·8	4	34·1	25	55·5	2·7	·365	83
		Sep.	29·908	60·6	46·5	53·5	+0·5	67·8	18, 20	33·9	21	52·2	3·0	·313	80
FORT WILLIAM, (Inverness.) R. T. OMOND, F.R.S.E., and ANGUS RANKIN.	42	July	29·899	65·4	51·6	58·5	+1·2	75·6	11	43·9	18	58·2	4·2	·364	73
		Aug.	29·860	61·9	50·1	56·0	−1·1	73·6	30	39·4	25	55·1	2·6	·361	83
		Sep.	29·946	60·7	47·0	53·8	+0·5	68·9	18	37·9	11, 14	52·5	3·0	·317	80
GORDON CASTLE, (Banff.) C. WEBSTER, Gardener to the Duke of Richmond and Gordon.	107	July	29·825	65·7	48·9	57·3	+0·1	73·0	12	38·5	19	58·5	4·0	·373	76
		Aug.	29·779	63·9	48·5	56·2	−0·6	77·0	4	38·0	25	56·8	3·1	·372	80
		Sep.	28·875	60·8	45·5	53·1	−0·2	72·0	19	39·0	14	53·7	3·2	·327	79
BRAEMAR, (Aberdeen.) JAMES AITKEN, Banker.	1114	July	28·759	63·6	46·9	55·2	+0·4	74·8	10	38·2	18	55·7	3·9	·338	76
		Aug.	28·707	60·3	45·9	53·1	−0·5	72·0	4	34·0	25	53·1	3·1	·321	79
		Sep.	28·806	56·9	41·5	49·2	−0·3	65·0	19	29·5	14	48·8	2·6	·283	81
LOANHEAD, (Aberdeen.) ALEX. FARQUHARSON.	747	July	29·160	65·4	47·1	56·2	+0·5	74·4	11	41·6	18	57·1	3·4	·368	79
		Aug.	29·093	62·7	46·9	54·8	−0·3	75·3	4	36·2	25	55·4	3·0	·355	81
		Sep.	29·204	59·4	44·1	51·7	+0·4	66·0	19	36·3	28	51·3	1·9	·329	87

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
8·4	5	...	...	...	...	0	0	0	0	16	7	0	6	5	6	4	12	1	18	4	6	3·5
8·4	8	...	...	...	...	0	0	0	0	18	8	0	12	2	3	3	9	10	4	17	2	3·0
8·4	5	...	...	...	...	0	0	0	1	17	1	0	5	4	1	15	19	6	6	4	0	4·0
...	9	1·23	...	0·46	7	0	0	0	...	...	3	0	1	12	8	0	14	5	10	6	6	2·5
...	13	2·91	...	0·45	6	0	0	0	...	...	1	0	11	14	3	4	17	0	8	3	2	2·9
...	15	2·06	...	0·34	25	0	0	0	...	...	0	1	6	2	4	14	24	5	4	0	1	3·4
8·0	8	1·07	− 1·61	0·27	14, 15	0	0	0	0	19	8	0	3	3	15	9	10	6	15	1	0	2·2
7·4	20	2·85	+ 0·08	0·57	12	0	0	0	1	15	5	0	7	3	4	8	11	4	4	21	0	1·9
6·7	11	2·24	− 0·84	0·36	30	0	0	0	1	12	1	3	2	3	8	6	29	4	2	6	0	2·6
...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	2	18	10	12	6	14	0	3·2
...	20	2·92	− 0·99	0·59	4	...	...	...	...	...	...	...	2	6	4	2	4	10	20	14	0	2·4
...	17	3·34	− 0·06	0·57	29	...	...	...	...	...	...	...	4	0	18	2	22	2	12	0	0	2·4
...	9	1·14	− 1·53	0·41	3	0	0	1	...	...	0	0	1	1	21	5	8	2	21	3	0	...
...	20	3·03	+ 0·39	0·65	13	0	0	0	...	...	0	0	3	0	14	8	2	2	20	13	0	...
...	13	2·40	− 0·31	0·53	25	0	0	0	...	...	0	0	4	3	12	12	2	6	16	5	0	...
6·8	12	0·87	− 2·09	0·21	13	0	0	1	1	8	0	0	0	0	6	16	8	4	18	4	6	2·9
6·6	27	3·47	+ 0·64	0·75	13	0	0	1	0	7	0	0	1	0	5	7	4	4	13	22	6	2·5
5·9	19	2·40	− 0·67	0·68	25	0	0	0	3	7	0	1	0	0	17	3	6	2	17	3	12	2·2
6·8	19	2·38	− 3·44	0·61	6	0	0	1	4	13	0	0	12	0	15	0	0	0	34	0	1	4·0
8·4	28	9·27	+ 2·27	1·36	6	0	0	2	0	21	0	0	14	0	15	0	0	0	33	0	0	3·3
8·3	18	7·92	− 0·92	1·26	29	0	0	1	6	14	0	0	10	1	19	0	0	0	24	0	6	3·5
6·1	14	2·20	− 0·96	0·48	17	0	0	0	7	12	5	1	7	3	9	3	16	5	16	2	1	3·1
6·2	21	6·22	+ 2·51	1·01	4	0	0	0	2	11	5	0	17	0	2	2	16	8	9	7	1	3·4
6·1	14	4·14	− 0·13	1·32	30	0	0	0	5	10	4	0	2	1	7	6	21	14	2	7	0	2·2
7·1	16	1·08	− 1·36	0·24	22	...	...	...	2	13	...	...	...	...	...	...	...	...	...	...	...	...
7·8	23	3·70	+ 0·88	0·81	4	...	...	...	0	15	...	...	...	...	...	...	...	...	...	...	...	...
6·7	12	1·27	− 1·76	0·50	8	...	...	...	2	13	...	...	...	...	...	...	...	...	...	...	...	...
6·4	8	0·81	− 2·03	0·37	21	0	0	1	2	9	0	1	1	14	6	2	5	15	18	1	0	1·4
8·5	23	3·53	+ 0·87	0·62	18	0	0	1	0	22	2	0	2	5	8	0	0	16	18	12	1	1·2
6·6	15	2·00	− 0·76	0·76	2	0	0	0	2	12	7	0	2	7	8	2	6	15	15	5	0	1·1
6·8	13	1·43	− 1·62	0·35	6	0	0	1	2	9	1	0	1	19	2	2	5	23	0	0	10	0·9
7·2	21	3·96	+ 0·29	0·61	18	0	0	1	0	12	1	0	1	11	0	0	7	16	1	2	24	1·7
6·8	15	3·76	− 0·43	0·83	5	0	0	0	2	11	1	0	4	11	1	0	14	9	1	0	20	2·1
7·4	20	5·15	+ 0·24	0·94	14	0	0	1	3	16	1	0	7	10	4	2	5	18	4	0	12	0·8
8·0	23	6·92	+ 1·18	1·52	14	0	0	1	0	17	1	0	7	0	3	3	9	17	16	2	5	0·8
6·8	16	9·58	+ 3·41	1·98	5	0	0	0	6	12	0	0	5	0	8	2	5	17	2	1	20	1·1
6·2	9	1·00	− 2·03	0·48	2	0	0	2	1	8	0	0	2	10	0	19	6	18	0	7	0	0·9
7·6	22	3·67	+ 0·30	0·99	4	0	0	0	0	14	0	0	1	5	0	13	5	20	1	17	0	1·3
6·8	12	2·53	− 0·56	0·88	25	0	0	0	1	10	0	1	0	4	0	27	7	15	1	6	0	2·0
6·5	12	1·73	− 1·10	0·37	22	0	1	4	2	6	2	0	2	2	1	21	5	30	1	0	0	0·9
7·1	21	3·73	− 0·01	0·72	4	0	0	1	1	8	1	0	2	2	0	5	1	33	5	14	0	0·7
7·0	16	2·14	− 1·16	0·71	2	0	0	0	1	10	3	0	2	3	1	3	4	39	1	7	0	1·0
7·9	9	1·07	− 1·88	0·46	20	0	0	1	1	19	0	0	0	5	9	9	3	11	0	5	20	...
7·5	21	3·77	+ 0·58	1·28	4	0	0	0	1	15	0	0	1	1	2	1	0	8	3	20	26	...
6·6	17	1·70	− 1·06	0·81	2	0	0	0	3	11	0	1	0	3	0	10	4	4	2	6	31	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of A. Maximum.	Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
TILLYPRONIE, (Aberdeen.) Robt. Littlejohn, Gardener to Sir John F. Clark, Bt.	1120	July	28·778	62·3	46·9	54·6	+0·2	68·5	11, 30	41·5	4	54·0	3·2	·329	79
		Aug.	28·704	62·7	45·4	54·0	+0·2	84·5	28	36·0	25	53·0	3·2	·317	79
		Sep.	28·810	57·5	43·3	50·4	+0·8	64·0	19	38·0	22	49·6	2·4	·296	83
ABERDEEN, (Aberdeen.) Peter Harper, Superintendent, Duthie Park.	44	July	29·924	63·4	50·8	57·1	+0·2	70·6	16	42·0	7	57·2	3·6	·365	77
		Aug.	29·852	64·0	48·9	56·4	−0·6	76·0	29	38·5	25	56·2	3·6	·378	84
		Sep.	29·970	58 9	46·9	52·9	−0·3	65·0	2	39·2	28	52·7	2·4	·334	84
PETERHEAD, (Aberdeen.) Dr W. H. M'Walter, H.M. Prison.	100	July	29·863	61·9	49·5	55·7	−1·5	68·8	8	40·9	4	55·4	3·7	·339	77
		Aug.	29·779	60·7	49·3	55·0	−1·9	69·6	29	39·6	6	55·5	2·6	·367	83
		Sep.	29·891	57·0	47·8	52·4	−0·8	65·2	2	42·7	4	54·2	2·2	·358	85
CRATHES, (Kincardine.) J. Smith, Pinewood.	145	July	29·810	65·1	48·4	56·8	...	72·4	16	40·5	3	57·2	4·0	·354	75
		Aug.	29·741	64·3	46·8	55·5	...	76·1	4	35·0	21	56·6	3·3	·385	79
		Sep	29·868	59·9	43·8	51·8	...	65·0	1, 2	34·6	23	52·0	2·2	·330	85
MONTROSE, (Forfar.) (Royal Asylum), Dr John G. Havelock.	200	July	29·757	63·9	49·8	56·8	−0·8	71·0	13	44·0	20	56·1	3·1	·364	80
		Aug.	29·692	62·3	48·7	55·5	−1·5	72·0	4	40·0	21	55·5	2·4	·373	85
		Sep.	29·802	59·2	46·0	52·6	−0·2	66·0	1	38·0	28	52·3	2·2	·334	85
ARBROATH, (Forfar.) James Campbell, "For the Natural History Assoc. of Arbroath."	68	July	29·906	63·4	51·1	57·2	−0·3	70·0	9	45·0	18	57·1	3·1	·376	80
		Aug.	29·832	63·2	49·7	56·5	−0·7	70·5	29	41·0	20	56·5	2·5	·384	84
		Sep.	29·952	59·4	47·2	53·3	−0·1	66·0	1	40·0	28	53·4	2·3	·345	85
DUNDEE, Eastern Necropolis, (Forfar.) J. Carnochan, Curator.	164	July	29·798	66·7	50·4	58·5	−0·1	74·6	13	44·3	4	56·6	2·8	·378	82
		Aug.	29·732	65·3	48·8	57·0	−0·5	76·5	4	41·5	20	56·7	2·7	·381	83
		Sep.	29·848	60·3	46·3	53·3	−0·2	68·3	7	38·8	14	51·1	1·8	·330	87
DUNDEE, Harbour, (Forfar.) J. Thompson, Jr., Harbour Trust.	20	July	29·960	66·3	51·6	58·9	−0·4	73·8	18	41·2	6	58·4	3·4	·388	79
		Aug.	29·886	67·3	50·9	59·1	+0·1	75·8	5	44·0	20	58·5	2·9	·403	82
		Sep.	30·011	62·0	48·3	55·2	+0·4	68·8	11	40·5	4	54·3	2·6	·349	82
LEDNATHIE, (Forfar.) Wm. Morrison, Gardener to Patrick Stormonth Darling.	720	July	29·199	64·0	45·8	54·9	−1·1	71·0	11	36·5	17	54·7	2·9	·349	81
		Aug	29·129	63·0	45·2	54·1	−0·7	74·0	4	35·6	25	54·1	3·0	·336	80
		Sep.	29·246	59·7	40·8	50·2	−0·6	67·3	2	32·6	28	50·0	2·6	·295	82
BALRUDDERY, (Forfar.) R. Cairns, Gardener to J. Martin White.	280	July	29·673	65·6	48·9	57·2	−0·8	72·0	10, 22	42·0	4, 17	57·3	3·6	·366	78
		Aug.	29·607	64·2	48·0	56·1	−1·0	75·0	4	40·0	20, 21	55·8	2·7	·370	83
		Sep.	29·719	60·8	44·7	52·7	−1·4	67·0	18	37·0	14	51·5	2·4	·319	84
PERTH, (Perth.) John Leslie, Gardener to Henry Coats.	105	July	29·864	66·3	49·1	57·7	−0·7	74·0	11, 13	40·0	4	57·3	2·9	·385	81
		Aug.	29·796	65·2	47·9	56·5	−0·8	77·0	4	36·5	20	55·6	2·4	·375	84
		Sep.	29·900	60·4	44·8	52·6	−0·8	67·5	2	35·0	14	51·6	2·3	·323	84
STRONVAR, (Perth.) D. L. Mackintosh, Gardener to James Carnegie.	422	July	29·509	63·6	49·3	56·4	−0·6	77·0	11	40·0	4	55·1	2·8	·369	85
		Aug.	29·450	63·4	47·1	55·2	−0·8	73·0	4, 30	36·0	20	55·1	2·7	·358	82
		Sep.	29·556	59·9	43·4	51·6	−0·4	67·0	18	34·0	11	50·5	2·5	·304	83
OCHTERTYRE, (Perth.) George Croucher, Gardener to Sir Patrick Keith Murray, Bart.	333	July	29·612	66·4	49·4	57·9	+0·1	79·0	11	42·0	17, 18	56·5	3·1	·368	80
		Aug.	29·552	66·0	48·2	57·1	+0·3	78·0	4	39·0	20	55·7	2·9	·364	82
		Sep.	29·663	62·3	43·9	53·1	+0·4	70·0	18	35·0	14	51·3	2·3	·319	84
CLATHICK, (Perth.) Alex. Hendry.	300	July	29·657	65·9	49·7	57·8	...	78·0	11	41·5	18	56·4	2·9	·372	82
		Aug.	29·579	65·5	46·9	56·2	...	78·0	4	39·0	20	55·6	2·9	·362	81
		Sep.	29·689	61·7	44·3	53·0	...	69·5	18	37·0	28, 29	51·5	2·1	·326	86
CUPAR, (Fife.) Dr Turnbull, Fife and Kinross District Asylum.	210	July	29·753	65·3	50·7	58·0	+0·2	72·0	13	42·0	18	57·4	3·0	·384	81
		Aug.	29·682	66·5	49·3	57·9	+1·1	78·0	4	40·0	20, 21	57·7	2·9	·392	82
		Sep.	29·900	61·9	45·7	53·8	+1·0	68·0	18	35·0	21	53·3	2·8	·331	81

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
7·2	16	1·32	– 1·36	0·43	21	0	0	0	0	9	9	0	0	0	0	23	0	38	0	1	0	2·0
7·6	24	4·03	+ 0·64	1·24	4	0	0	1	0	10	1	0	5	2	0	10	3	21	1	20	0	2·2
7·1	15	1·58	– 1·24	0·71	2	0	0	0	0	12	4	0	0	0	0	22	2	19	1	16	0	2·3
6·3	9	1·44	– 1·46	0·82	2	0	0	3	0	6	0	0	2	8	5	13	11	17	5	0	1	2·0
6·0	19	2·24	– 0·88	0·37	6	0	0	0	1	3	1	0	6	3	2	1	16	14	5	15	0	2·0
5·0	13	2·09	– 0·78	0·79	2	0	0	0	1	4	0	0	3	6	1	7	17	18	2	5	1	2·5
6·7	7	0·60	– 1·98	...	...	0	0	0	4	14	2	0	7	0	4	7	19	6	1	7	11	2·6
6·5	18	2·10	– 0·73	0·52	6	0	0	1	2	7	0	0	14	2	1	3	20	2	1	13	6	1·6
6·1	10	2·47	– 0·59	1·13	2	0	0	0	2	10	1	1	9	2	2	3	31	3	0	5	2	3·7
6·7	12	1·87	...	0·50	3	0	0	4	3	12	5	0	0	1	8	14	16	11	6	2	4	2·6
6·5	20	2·66	...	0·31	6, 11	0	0	2	2	9	0	0	5	1	2	2	15	6	8	19	4	2·4
5·8	14	2·07	...	1·03	2	0	0	0	5	11	0	0	4	1	2	4	22	10	7	6	4	2·9
...	10	1·09	– 1·92	0·24	31	0	0	4	...	...	5	0	2	7	18	4	10	12	9	0	0	3·0
...	17	4·19	+ 1·10	1·06	13	0	0	3	...	...	7	0	12	1	7	7	11	5	15	4	0	3·4
...	7	1·79	– 1·07	0·46	2	0	0	0	...	...	12	1	6	3	4	7	19	6	10	5	0	3·4
5·8	9	0·83	– 1·95	0·32	15	0	0	4	4	6	2	0	3	15	10	2	10	6	15	0	1	1·4
5·2	21	4·51	+ 1·69	1·32	11	0	1	3	2	5	3	0	6	5	4	6	5	8	17	9	2	1·1
4·3	12	1·93	– 0·56	0·83	2	0	0	0	5	4	3	0	9	4	5	11	4	10	11	3	3	2·0
8·0	11	1·25	– 1·75	0·30	3, 15	0	1	2	0	18	1	0	0	8	5	20	0	16	12	1	0	1·8
8·5	24	5·58	+ 2·48	1·40	4	0	0	3	1	19	0	0	0	11	3	10	0	19	10	9	0	1·7
7·9	14	2·40	– 0·28	0·86	2	0	0	0	0	14	2	0	0	10	1	16	1	18	11	3	0	1·7
5·7	10	1·15	...	0·27	15	0	0	0	2	7	1	0	0	2	19	9	3	6	20	3	0	2·4
5·6	22	5·37	...	1·50	4	0	0	0	1	6	1	0	3	4	4	8	3	18	15	7	0	3·0
5·3	14	2·24	...	0·95	2	0	0	0	3	7	1	0	0	7	13	10	1	10	12	7	0	2·9
7·5	15	1·96	– 1·71	0·48	15	0	1	4	1	10	1	0	1	1	5	15	7	11	15	3	4	2·4
6·9	22	5·66	+ 1·95	1·19	4	0	0	2	1	12	1	0	6	2	2	4	7	10	16	14	1	2·1
6·4	19	3·81	+ 0·10	0·93	2	0	0	0	1	9	1	0	3	3	5	16	3	7	14	7	2	2·1
5·1	10	1·20	...	0·28	16	0	0	1	2	2	0	0	0	5	12	9	0	15	16	5	0	2·6
4·9	25	5·06	...	1·09	12	0	0	1	1	4	0	0	2	9	2	4	2	11	16	16	0	2·4
5·4	13	2·69	...	1·15	2	0	0	0	2	6	1	0	1	6	11	8	1	14	13	6	0	2·7
6·1	...	1·86	– 1·25	...	...	0	0	1	6	9	0	0	1	1	5	13	9	6	7	1	19	...
5·2	...	4·96	+ 1·72	...	...	0	0	1	6	6	1	0	1	2	3	4	11	8	7	6	20	...
5·2	...	2·83	– 0·09	...	...	0	0	0	3	9	2	0	0	1	6	11	10	4	3	0	25	...
...	19	4·71	+ 0·05	0·75	14	0	0	2	...	...	0	0	0	2	18	6	0	8	26	0	2	3·3
...	25	7·74	+ 2·04	1·26	13	0	0	1	...	...	0	0	0	8	2	0	0	14	28	8	2	2·7
...	17	7·60	+ 1·28	2·36	5	0	0	0	...	...	0	1	0	6	16	6	2	16	8	16	0	3·7
7·3	14	2·60	– 0·61	0·58	21	0	0	5	3	16	0	0	0	1	25	1	3	10	20	0	2	1·2
7·5	22	4·53	+ 0·71	0·74	10	0	0	2	0	12	0	0	1	2	7	4	10	8	14	11	5	0·5
6·9	15	5·01	+ 1·57	1·15	2	0	0	0	2	12	0	0	2	3	27	0	0	7	13	3	5	0·9
7·5	14	2·24	...	0·47	14	0	0	4	1	18	0	0	1	1	23	5	11	5	11	5	0	2·8
6·9	19	4·76	...	0·75	10	0	0	2	0	10	1	0	16	10	4	4	11	9	5	3	0	1·5
6·2	15	4·99	...	0·93	2	0	0	0	5	12	2	0	5	6	26	12	1	7	3	0	0	2·7
...	11	0·88	– 1·87	0·34	15	...	...	...	...	...	...	0	...	...	...	...	...	...	...	...	...	...
...	18	3·37	+ 0·12	0·93	10	...	...	...	...	...	...	0	11	4	7	0	2	6	21	5	6	2·3
...	10	1·43	– 1·60	0·46	25	...	...	...	...	...	...	0	6	3	20	1	5	4	15	3	3	2·4

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904. Months.	BAROMETER. Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	AIR TEMPERATURE. Mean of A. Maximum.	AIR TEMPERATURE. Mean of B. Minimum.	AIR TEMPERATURE. Mean of A and B.	AIR TEMPERATURE. Difference from Average.	AIR TEMPERATURE. Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
DUNFERMLINE, (Fife.) Dr J. MACDONALD, High School.	225	July	...	...	...	...	...	...	...	...	.	...	...	...	...
		Aug.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sep.	...	...	...	...	...	...	...	...	...	...	...	...	...
BUCHLYVIE, (Stirling.) Rev. JOHN A. MACDONALD.	125	July	29·838	65·0	50·2	57·6	+0·3	76·0	11, 18	41·0	17	57·4	2·4	·400	85
		Aug.	29·779	64·9	48·0	56·4	−0·7	72·0	4, 30	37·0	20	55·8	2·3	·381	85
		Sep.	29·886	60·7	44·2	52·4	−1·1	69·5	5	33·0	15	51·7	1·8	·337	88
HELENSBURGH, (Dumbarton.) J. R. WILSON, Waterworks.	18	July	...	65·4	51·1	58·2	+0·8	77·0	12	39·7	17	58·2	3·0	·396	81
		Aug.	...	64·4	48·6	56·5	−0·6	70·8	1	40·0	22	56·5	2·3	·390	85
		Sep.	...	62·2	45·7	54·0	+0·5	69·0	1	40·0	24	53·8	2·0	·359	87
DUMBARTON, (Dumbarton.) WILLIAM DENNY AND BROTHERS.	27	July	29·939	65·0	52·5	58·8	+0·6	76·2	12	43·8	17	58·1	3·6	·379	78
		Aug.	29·888	64·7	50·9	57·8	−0·1	72·9	31	39·8	20	57·5	3·2	·380	80
		Sep.	29·988	61·2	47·0	54·1	−0·2	67·2	18	38·1	26	53·4	2·4	·342	84
LOCHBUIE, (Argyll.) J. T. MANNARY, Gardener to the Maclaine of Lochbuie.	20	July	29·925	63·9	52·3	58·1	+1·1	73·5	20	43·9	18	58·0	3·4	·383	79
		Aug.	29·887	63·4	49·7	56·6	−0·2	75·6	31	42·0	12, 22	56·7	3·3	·365	79
		Sep.	29·974	61·0	47·7	54·4	+0·7	66·0	20	40·0	13	54·2	3·0	·337	80
AIRDS, (Argyll.) Colonel MACFIE, C.B., and ALEXANDER M'LACHLAN.	15	July	29·927	64·1	50·8	57·5	+0·7	74·0	11, 12	43·0	8	57·4	3·6	·395	84
		Aug.	29·890	64·2	49·8	57·0	+0·2	76·0	30	43·0	25	56·5	2·5	·384	84
		Sep.	29·982	60·6	47·8	54·2	+0·4	68·0	19	40·0	24	54·1	2·3	·354	84
POLTALLOCH, Lochgilphead (Argyll.) D. S. MELVILLE, Gardener.	185	July	29·806	67·3	...	...	...	82·0	12	...	...	57·0	2·6	·388	83
		Aug.	29·774	65·5	47·4	56·4	−0·6	76·0	31	40·0	12, 20	55·3	2·4	·369	84
		Sep	29·851	62·7	46·0	54·3	+0·4	68·0	24	37·0	11	52·8	1·4	·352	90
ROTHESAY, (Isle of Bute.) JAMES KAY, Barone Cottage.	116	July	29·836	65·6	50·9	58·2	+0·9	80·0	11	44·0	18	56·9	2·2	·398	86
		Aug.	29·799	63·9	48·7	56·3	−0·4	77·0	30	40·2	20	55·2	1·8	·384	88
		Sep.	29·884	61·9	46·3	54·1	+0·5	67·5	19	39·0	11	52·0	2·1	·338	85
GREENOCK, (Renfrew.) DANIEL MACALISTER, C.E., Waterworks.	238	July	29·713	64·0	50·9	57·4	+0·1	75·9	12	46·0	17	57·3	3·1	·380	80
		Aug.	29·667	63·5	49·9	56·7	−0·4	72·2	5	43·0	20	56·5	3·2	·366	80
		Sep.	29·758	61·1	46·3	53·7	+0·3	67·5	19	38·5	20	53·7	2·9	·334	81
PAISLEY, (Renfrew.) DONALD MACLEAN, The Coats Observatory.	107	July	29·855	66·3	52·3	59·3	+0·8	79·9	11	45·3	18	57·9	3·1	·390	81
		Aug.	29·803	65·1	50·8	58·0	0·0	77·2	4	42·5	20, 21	57·2	3·3	·372	79
		Sep.	29·893	61·4	46·9	54·2	−0·1	69·0	19	38·4	21	52·8	2·5	·333	83
BOWHILL, (Ayr.) ALEXANDER GILLESPIE, C.E.	978	July	28·935	62·1	48·8	55·5	+1·3	78·0	11	42·0	1	55·3	2·7	·362	83
		Aug.	28·884	59·3	47·2	53·2	−0·1	71·0	30	40·0	20	53·1	2·0	·349	86
		Sep.	28·977	56·2	44·0	50·1	0·0	62·0	19	39·0	11, 22	50·2	2·1	·310	86
KILMARNOCK, (Ayr.) GLENFIELD & KENNEDY, Ltd.	74	July	29·883	65·2	52·3	58·7	...	81·0	11	41·0	18	58·9	3·1	·403	81
		Aug.	29·843	63·4	49·4	56·4	...	73·0	4	35·5	21	56·7	3·0	·373	81
		Sep.	29·945	61·2	46·3	53·7	...	68·0	19	35·5	11	53·3	2·3	·343	84
GLASGOW, Belvidere Hosp., (Lanark.) Dr JOHN BROWNLEE.	54	July	29·909	66·2	52·2	59·2	+0·5	78·3	11	43·0	18	58·7	3·5	·390	78
		Aug.	29·856	65·1	50·4	57·7	−0·5	77·9	30	40·5	21	57·7	3·3	·381	79
		Sep.	29·954	62·2	46·8	54·5	+0·2	69·0	19	36·5	21	54·1	2·9	·338	80
GLASGOW, Observatory, (Lanark.) Prof. BECKER, F.R.S.E.	184	July	29·769	63·4	52·4	57·9	−0·4	72·3	11	47·3	17	56·8	3·0	·375	81
		Aug.	29·717	62·6	51·2	56·9	−0·7	71·5	4, 30	42·9	20	55·9	2·9	·366	82
		Sep.	29·815	59·4	47·7	53·5	−0·4	65·7	17	39·1	11	52·5	2·6	·327	82
BOTHWELL, (Lanark.) Dr JOHN T. WILSON.	150	July	...	65·2	50·8	58·0	...	78·6	11	41·0	18	57·5	3·0	·386	81
		Aug.	...	64·9	48·7	56·8	...	77·0	30	37·0	20	56·0	2·8	·370	82
		Sep.	...	61·1	43·9	52·5	...	68·0	19	31·6	22	51·6	2·7	·314	81

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6·0	20	3·31	-0·39	0·59	2	0	1	3	3	4	1	0	0	1	20	2	2	14	16	5	2	2·1
4·7	21	6·13	+1·58	0·88	6	0	0	2	4	2	2	0	0	1	3	8	2	17	15	15	1	1·4
4·6	17	5·39	+1·09	1·59	2	0	0	1	6	6	5	1	0	0	12	11	2	13	11	5	6	1·7
...	17	2·42	-0·79	0·43	6	...	...	...	...	...	...	...	14	6	12	2	6	4	14	4	0	...
...	20	5·04	+0·86	0·77	10	...	...	...	...	...	...	...	8	4	12	6	20	0	12	0	0	...
...	12	4·70	+0·50	0·99	2	...	...	...	...	...	...	...	2	2	14	14	12	4	4	8	0	...
...	19	2·44	-0·74	0·51	2	...	...	...	...	...	...	...	4	2	4	10	4	4	10	2	22	...
...	18	4·34	+0·40	0·57	1	...	...	...	...	...	...	...	2	0	6	2	6	4	8	16	18	...
...	13	4·80	+0·64	1·20	2	...	...	...	...	...	...	...	4	2	4	12	2	2	4	6	24	...
7·2	15	4·15	...	0·88	6	0	0	1	4	16	0	0	2	12	6	8	16	14	2	0	2	2·1
6·1	19	7·83	...	0·94	31	0	0	0	4	13	0	0	10	6	6	2	6	20	6	2	4	2·1
4·3	13	5·61	...	1·45	30	0	0	0	9	6	0	1	0	4	20	6	6	14	6	2	2	2·2
8·1	...	2·97	-1·52	...	...	...	...	...	4	14	...	...	4	0	15	5	14	6	18	0	0	2·2
7·0	...	7·17	+1·98	...	...	...	...	...	4	15	...	...	11	1	4	0	15	1	28	2	0	2·0
6·8	...	5·00	-0·67	...	...	...	...	...	5	14	...	...	4	0	15	6	18	6	9	2	0	2·2
7·0	20	4·46	+0·21	0·69	31	0	0	1	2	15	1	0	0	0	2	8	13	15	4	2	18	2·5
6·9	21	4·39	-0·31	0·70	30	0	0	1	2	12	0	0	1	3	3	2	8	10	3	9	23	1·9
6·1	16	4·32	-1·00	1·13	4	0	0	0	0	10	0	0	1	0	5	1	12	13	2	2	24	2·9
7·0	18	3·07	-0·88	0·52	15	0	0	1	3	14	0	0	1	13	9	2	13	11	6	3	4	1·7
6·9	22	5·95	+1·37	1·27	10	0	0	1	1	13	0	0	4	4	1	1	12	3	12	12	13	1·4
...	14	4·76	+0·21	1·01	2	1	0	0	...	...	0	0	1	10	11	5	9	4	5	3	12	1·5
7·3	20	3·04	-0·84	0·58	2	0	0	1	3	15	0	0	0	12	11	4	0	12	22	1	0	2·4
6·8	20	5·85	+0·52	0·85	13	0	0	0	0	9	0	0	0	6	1	5	0	18	13	17	2	2·3
6·4	13	6·36	+0·45	1·19	2	0	0	0	0	7	1	0	0	3	7	19	0	13	9	7	2	2·3
7·9	18	1·76	-1·05	0·33	15	0	0	1	1	20	2	0	0	8	11	0	7	10	10	4	12	1·2
6·5	20	4·13	+0·80	0·76	1	0	0	0	2	9	4	0	5	1	0	1	10	2	9	7	27	1·5
...	14	4·64	+0·92	0·95	5	0	0	1	...	...	1	0	4	3	8	3	13	2	7	3	17	1·2
7·3	20	3·16	...	0·80	15	...	...	...	0	7	...	...	5	0	10	11	17	5	10	4	0	2·8
7·3	21	6·37	...	1·12	11	...	...	...	0	13	...	...	8	7	0	5	14	9	10	9	0	3·1
6·6	13	3·89	...	0·97	2	...	...	...	0	3	...	...	1	4	3	16	19	7	6	4	0	1·9
...	17	3·50	...	0·78	15	0	0	1	...	...	0	0	0	4	14	8	7	19	9	1	0	1·8
...	19	5·41	...	1·12	21	0	0	0	...	...	0	0	1	3	2	6	15	14	13	8	0	1·5
...	14	4·07	...	0·92	2	0	0	0	...	...	0	0	0	5	13	11	10	7	13	1	0	3·9
7·7	16	2·27	-0·79	0·40	15	0	0	2	2	18	0	0	4	5	25	2	0	8	1	9	8	0·6
7·5	17	2·91	-0·58	0·42	4	0	0	0	0	13	0	0	12	2	17	2	1	2	3	17	6	1·2
6·3	11	2·68	-0·67	0·75	2	0	0	0	0	5	1	0	7	2	37	2	0	0	1	4	7	0·8
8·4	17	3·60	+0·40	0·95	21	0	0	2	0	20	0	0	1	13	12	2	4	17	5	1	7	1·2
7·7	19	3·93	+0·12	0·59	1,10	0	0	0	0	16	0	0	1	5	1	0	8	13	13	1	20	0·9
7·5	18	3·50	-0·08	1·13	2	0	0	0	1	14	1	0	1	8	12	4	7	6	5	0	17	0·9
...	16	2·25	-0·50	0·60	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	20	3·61	+0·69	0·63	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	11	2·21	-0·24	0·72	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904. Months.	BAROMETER. Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	AIR TEMPERATURE. Mean of A. Maximum.	AIR TEMPERATURE. Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.	°	°	°	°	°		°		°	°	inch.	%
LEADHILLS, (Lanark.)	1800	July	...	61·8	47·9	54·8	...	80·0	11	41·0	28	54·6	3·4	·334	78
James M'Farlane.		Aug.	...	60·9	45·0	53·0	...	69·9	4	38·7	25	52·2	2·4	·324	84
		Sep.	...	56·9	40·2	48·6	...	67·1	19	34·0	12	47·7	2·4	·274	83
EDINBURGH, Royal Observatory, (Edinburgh.)	441	July	29·504	62·5	51·4	57·0	+0·4	70·4	29	46·9	4	56·0	2·7	·369	81
Prof. Copeland, F.R.S.E.		Aug.	29·439	63·4	50·8	57·1	+1·3	75·1	4	42·5	12	55·7	3·5	·348	78
		Sep.	29·548	59·4	47·4	53·4	+1·2	68·5	17	41·7	21	52·4	2·9	·319	81
CORSTORPHINE, (Edinburgh.)	165	July	29·795	64·7	50·5	57·6	+0·2	72·6	12	44·2	17	57·3	3·3	·374	79
Dr T. N. Johnston, F.R.S.E.		Aug.	29·738	65·9	49·5	57·7	+1·8	76·5	4	41·8	19	56·1	3·2	·362	79
		Sep.	29·842	61·9	44·9	53·4	+0·4	69·3	18	33·7	21	52·4	2·8	·321	82
LEITH, (Edinburgh.)	76	July	29·896	64·1	52·9	58·5	+0·1	73·0	29	47·9	18	57·8	3·3	·383	80
James Bolam, Navigation School, and George Redpath.		Aug.	29·826	65·7	52·5	59·1	+1·4	76·5	4	43·9	21	58·1	3·6	·379	78
		Sep.	29·939	61·3	48·4	54·8	+0·6	71·7	18	40·1	21	54·5	3·2	·337	79
DALKEITH, (Edinburgh.)	190	July	29·778	65·8	51·2	58·5	+0·5	74·9	11	46·5	24	58·3	3·8	·376	77
J. Whytock, Gardener to the Duke of Buccleuch.		Aug.	29·711	65·7	50·0	57·8	+0·8	77·0	4	43·0	20	57·0	3·5	·364	78
		Sep.	29·818	61·4	46·6	54·0	+0·7	68·8	18	41·0	11, 28	53·2	2·3	·343	84
SMEATON, (Haddington.)	100	July	29·881	68·6	50·2	59·4	0·0	76·0	14	45·0	4	59·7	3·8	·402	79
John Black, Gardener to Sir Archibald Buchan Hepburn, Bart.		Aug.	29·802	67·0	48·8	57·9	−0·4	78·0	4	41·0	21, 28	57·8	3·3	·383	80
		Sep.	29·921	62·0	44·8	53·4	−0·5	71·0	5	37·0	14	52·5	2·2	·336	85
MARCHMONT, (Berwick.)	500	July	29·449	64·2	49·5	56·8	−0·1	73·0	11	43·0	3	56·6	3·0	·373	81
John A. Wood, Gardener.		Aug.	29·386	63·7	47·6	55·6	−0·7	76·0	4, 29	38·0	21	56·0	2·8	·370	82
		Sep.	29·498	60·7	43·9	52·3	+0·1	70·0	18	35·0	21	52·9	2·5	·333	84
DUNS CASTLE, (Berwick.)	500	July	29·448	64·8	49·8	57·3	+0·5	74·0	11	39·0	4	56·4	2·8	·375	83
James Redpath, Gardener to F. S. Hay.		Aug.	29·380	65·3	48·1	56·7	+0·7	76·0	4	38·0	18, 21	55·8	2·6	·373	84
		Sep.	29·494	63·0	43·7	53·4	+1·2	70·0	18	35·5	21	52·5	2·5	·328	83
STOBO CASTLE, (Peebles.)	600	July	29·332	65·1	48·7	56·9	+0·1	80·0	11	37·0	18	57·1	2·2	·401	85
William Young, Gardener to Sir B. T. G. Montgomery, Bart.		Aug.	29·282	63·6	46·7	55·2	−0·8	78·0	30	34·0	21	54·9	2·2	·370	86
		Sep.	29·375	59·9	42·8	51·3	−0·6	69·0	17, 18	30·0	21	50·4	1·9	·318	88
BROOMLANDS, (Roxburgh.)	205	July	29·768	66·2	50·5	58·4	+0·5	75·0	11	43·0	7	58·8	3·3	·397	80
James Brunton.		Aug.	29·704	65·8	48·0	56·9	−0·3	79·0	30	35·0	21	56·6	2·7	·380	82
		Sep.	29·811	62·6	44·1	53·3	0·0	69·0	18	36·0	11, 19	52·3	2·9	·317	80
WOLFELEE, (Roxburgh.)	537	July	29·404	66·5	...	...	...	80·0	11	...	...	57·9	3·2	·388	80
Arthur Hume, Gardener to J. T. S. Elliot.		Aug.	29·347	64·9	...	...	...	78·0	30	...	...	54·9	2·2	·370	86
		Sep.	29·442	61·6	...	...	...	71·0	5	...	...	49·8	2·0	·307	87
DRUMLANRIG, (Dumfries.)	191	July	29·781	66·6	49·8	58·2	+0·3	81·0	11	36·0	7	58·0	2·9	·396	82
David Inglis, Gardener to the Duke of Buccleuch.		Aug.	29·738	64·9	46·6	55·8	−1·2	78·0	30	35·0	21	55·1	2·3	·365	85
		Sep.	29·822	60·7	43·4	52·1	−1·4	68·0	19	30·0	21	50·9	2·0	·323	87
DUMFRIES, (Dumfries.)	60	July	29·919	69·3	52·2	60·7	+1·8	84·7	11	46·0	18	60·3	3·9	·407	77
Rev. William Andson.		Aug.	29·884	66·8	49·3	58·1	−0·1	79·0	3, 29	38·0	21	58·1	3·3	·387	79
		Sep.	29·968	63·4	45·0	54·2	−0·4	70·5	17	35·0	21	58·4	2·8	·332	82
CARGEN, (Kirkcudbright.)	85	July	...	...	...	...	...	83·0	11	43·0	7	...	...	...	...
Alex. Peacock, Gardener to Colonel Dudgeon.		Aug.	...	...	...	...	...	77·0	30	37·0	21	...	...	...	...
		Sep.	...	...	...	...	...	69·0	17, 20	35·0	27	...	...	...	...

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		incn.	inch.	inch.																		
...	14	4·51	...	1·63	15	0	0	0	...	...	0	0	...	...	...	...	...	...	...	...	...	...
...	17	6·17	...	1·61	6	0	0	0	...	...	0	0	...	...	...	...	...	...	...	...	...	...
...	11	4·75	...	1·10	30	0	0	0	...	...	2	0	...	...	...	...	...	...	...	...	...	...
6·5	13	1·18	−1·64	0·40	15	0	0	1	1	9	4	0	1	13	12	0	18	4	18	1	0	2·4
6·4	20	4·30	+1·41	1·15	17	0	0	1	1	10	1	0	4	1	3	2	15	5	30	1	1	2·5
5·1	10	1·55	−0·70	0·55	25	0	0	0	4	6	1	0	3	5	5	9	15	8	13	1	1	2·6
6·6	19	1·47	...	0·39	15	0	0	1	1	9	3	0	1	0	24	0	4	3	25	2	3	2·0
5·1	24	4·67	...	1·14	17	0	0	1	6	6	0	0	4	1	11	0	4	0	31	2	9	2·2
...	16	1·88	...	0·47	25	0	0	0	...	...	0	0	4	2	13	0	7	2	30	0	2	2·3
7·3	16	1·44	−1·58	0·46	15	0	0	1	1	12	2	0	0	5	20	4	5	9	15	2	2	3·0
6·8	22	4·96	+2·03	1·29	11	0	0	3	0	10	1	0	5	3	5	4	8	16	14	10	2	2·1
5·7	14	1·83	−0·51	0·62	25	0	0	0	7	8	1	0	2	5	13	6	8	6	14	3	3	2·5
4·9	12	0·45	...	...	...	0	0	1	3	3	0	0	0	13	2	4	0	30	8	5	0	1·2
5·3	18	4·30	...	...	...	0	0	4	4	5	0	0	2	4	1	3	2	17	17	16	0	1·4
4·5	9	0·90	...	...	...	0	0	0	10	7	0	0	4	8	3	6	5	20	6	8	0	1·4
4·7	13	1·26	−1·89	0·43	15	0	0	3	1	5	3	1	0	2	20	1	24	9	6	0	0	...
5·0	17	4·39	+1·49	1·32	11	0	0	6	2	3	1	0	6	6	1	1	26	15	1	6	0	...
4·4	6	1·11	- 1·29	0·44	3	0	0	0	5	2	0	0	4	4	4	5	25	12	6	0	0	...
6·5	14	2·45	−0·99	0·82	15	0			1	11	2	0	7	5	20	1	8	7	14	0	0	3·4
6·3	18	2·83	−0·93	0·45	18	0	0	4	5	12	0	0	8	1	9	1	13	4	20	6	0	2·0
5·0	10	1·07	−2·03	0·39	2	0	0	0	9	8	0	0	8	3	23	3	9	5	9	0	0	3·8
7·2	17	2·61	−0·50	0·62	15	0	0	3	0	13	0	0	0	3	6	3	15	19	15	1	0	0·6
6·4	18	3·30	+0·21	0·54	6	0	0	6	2	3	0	0	0	0	2	1	9	19	23	8	0	0·8
4·5	12	1·30	−1·70	0·42	2	0	0	0	4	3	1	0	0	4	7	3	2	17	19	8	0	0·9
6·8	12	2·00	−0·85	...	...	0	0	0	8	13	0	0	4	2	12	4	11	7	20	2	0	1·9
6·9	16	3·90	+0·78	...	...	0	0	2	1	12	0	0	3	0	1	4	19	15	8	2	0	1·9
4·7	13	1·10	−1·87	...	...	0	0	0	9	7	1	0	5	1	15	2	16	8	11	2	0	2·0
5·9	15	1·99	−0·88	0·69	15	0	0	4	0	5	0	0	0	0	18	1	2	24	14	0	3	2·0
6·0	20	2·90	+0·04	0·73	22	0	0	1	0	5	0	0	0	1	8	1	2	33	6	1	10	1·1
5·3	8	0·65	−1·89	0·23	2	0	0	0	1	3	0	0	0	3	11	0	7	27	6	0	6	1·3
4·9	14	1·89	−1·27	0·90	15	0	0	0	7	7	0	0	0	13	1	6	1	20	14	7	0	...
6·2	19	3·59	+0·15	0·79	15	0	0	0	3	7	0	0	2	7	1	2	2	16	12	20	0	...
4·4	10	1·09	−2·11	0·21	2	0	0	0	4	3	2	0	3	6	2	5	7	17	12	7	1	...
...	19	2·94	−0·54	1·04	15	0	0	2	...	...	0	0	1	0	0	10	4	30	5	12	0	...
...	22	5·16	+1·35	0·90	17	0	0	0	...	...	0	0	2	3	0	4	2	22	4	24	1	...
...	14	3·09	−0·88	0·59	2	0	0	0	...	...	0	1	1	6	0	7	8	20	1	17	0	...
...	16	2·68	−0·52	1·40	15	0	0	1	...	...	0	0	1	5	14	7	8	17	8	2	0	2·4
...	17	3·85	−0·20	0·82	17	0	0	1	...	...	0	0	2	3	1	8	10	16	9	12	1	2·2
...	13	2·02	−1·68	0·53	30	0	0	0	...	...	0	0	2	5	9	13	7	14	5	3	2	2·2
...	12	3·83	+0·51	1·78	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	16	3·84	−0·21	0·84	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	10	2·78	−1·07	0·66	30	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.	°	°	°	°	°	°	°	°	°	°	inch.	%
CALLY, (Kirkcudbright.) WM. THOMSON, Gardener to H. G. Murray Stewart of Broughton.	120	July	29·861	67·7	50·4	59·0	+1·1	76·3	12	40·6	7	58·1	2·6	·406	83
		Aug.	29·824	64·2	46·7	55·4	−1·6	73·8	30	37·0	20	55·6	2·3	·383	86
		Sep.	29·891	62·5	44·1	53·3	−0·6	67·0	20	34·6	21	52·7	2·7	·326	82
BEN NEVIS OBSERVATORY, (Inverness.) R. T. OMOND, F.R.S.E., and ANGUS RANKIN.	4407	July	25·463	46·9	39·4	43·2	+2·0	62·1	11	32·1	8	43·1	1·2	·252	90
		Aug.	25·406	42·5	36·6	39·6	−0·9	57·9	30	30·5	20	39·4	0·3	·234	98
		Sep.	25·464	42·2	35·1	38·6	+0·5	50·8	19	30·0	25	38·4	1·5	·202	88

BRIGHT SUNSHINE.

STATIONS.		1904.	SUNSHINE.		
		Months.	Total Observed.	Difference from Average.	Per centage of Possible.
			hours.	hours.	%
DEERNESS,	(Orkney.)	July	108·2	−34·4	20
		Aug.	112·0	− 6·5	24
		Sept.	130·1	+23·6	34
INVERNESS,	(Inverness.)	July	167·6	+25·6	32
		Aug.	119·2	+ 0·2	26
		Sept.	150·5	+55·5	40
FORT AUGUSTUS,	(Inverness.)	July	141·8	+46·5	27
		Aug.	110·6	+21·6	24
		Sept.	106·7	+27·8	28
FORT WILLIAM,	(Inverness.)	July	165·4	+36·6	32
		Aug.	127·1	+26·2	27
		Sept	133·7	+38·2	36
CRATHES,	(Kincardine.)	July	149·3	...	28
		Aug.	146·3	...	32
		Sept.	110·9	...	29
BALRUDDERY,	(Forfar.)	July	151·8	...	29
		Aug.	135·2	...	29
		Sept.	121·8	...	32
PAISLEY,	(Renfrew.)	July	114·8	−29·2	22
		Aug.	136·3	+ 4·3	30
		Sept.	77·6	−29·4	21
GLASGOW,	(Lanark.)	July	127·8	−15·1	25
		Aug.	140·8	+12·1	31
		Sept.	124·9	+26·6	33
EDINBURGH,	(Edinburgh.)	July	149·7	−20·5	29
		Aug.	150·6	−20·9	33
		Sept.	142·9	+20·0	38
DUNS CASTLE,	(Berwick.)	July	139·8	...	27
		Aug.	141·2	...	31
		Sept.	136·5	...	37
MARCHMONT,	(Berwick.)	July	158·3	−13·7	31
		Aug.	158 3	+ 3·9	34
		Sept.	144·6	+30·5	39
BEN NEVIS OBSERVATORY,	(Inverness.)	July	140·4	+53·0	27
		Aug.	37·4	−19·3	8
		Sept.	101·5	+37·4	27

CLOUD. Mean at 9 a.m. and 9 p.m. Scale 0–10.	RAIN, AND OTHER FORMS OF PRECIPITATION. No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	WEATHER. Number of Days with Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m. N	NE	E	SE	S	SW	W	NW	Calm or Variable.	WIND FORCE. Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
...	14	3·43	– 0·18	1·09	15	0	0	1	...	...	0	0	1	7	8	13	9	13	2	11	3	1·4
...	20	5·84	+ 1·24	1·03	4	0	0	2	...	...	0	0	3	10	2	8	7	12	1	16	8	2·0
...	10	3·47	– 1·23	0·59	2	2	0	0	...	...	0	0	0	13	7	12	6	8	1	13	0	2·3
7·6	20	8·03	– 2·63	1·26	8	7	7	2	5	19	23	2	2	2	2	17	10	10	7	7	5	1·8
9·8	28	11·69	– 0·95	1·38	14	6	2	1	0	23	30	2	15	2	0	4	6	13	4	9	9	1·4
8·1	19	13·15	– 1·71	2·19	30	5	2	0	3	18	23	6	6	2	2	16	14	8	6	4	2	1·8

UNDERGROUND TEMPERATURE.

STATIONS.	1904. Months.	UNDERGROUND TEMPERATURE. Depth in Inches. 3	12	22	36	48
		°	°	°	°	°
DUNROBIN, (Sutherland.)	July	56·8	57·9	57·4	...	...
	Aug.	55·4	57·6	57·4	...	...
	Sept.	52·4	54·6	54·7	...	...
ARBROATH, (Forfar.)	July	57·7	56·2	54·9	...	..
	Aug.	57·0	56·1	55·6	...	...
	Sept.	53·1	53·6	53·7	...	...
OCHTERTYRE, (Perth.)	July	56·8	57·2	55·9	53·8	52·8
	Aug.	56·5	57·7	56·9	55·3	54·5
	Sept.	53·2	55·3	55·4	54·6	54·4
POLTALLOCH, (Argyll.)	July	60·5	61·3	59·9	...	...
	Aug.	58·8	60·4	59·5	...	...
	Sept.	54·5	56·8	56·0	...	...
PAISLEY, (Renfrew.)	July	57·6	57·1	57·0	...	...
	Aug.	57·0	56·7	57·4	...	...
	Sept.	52·0	53·2	55·1	...	...
CORSTORPHINE, (Edinburgh.)	July	59·5	58·5	57·9	...	...
	Aug.	57·8	57·9	57·8	...	...
	Sept.	53·0	55·1	55·3	...	...
SMEATON, (Haddington.)	July	61·9	61·6	59·3	...	...
	Aug.	59·4	59·5	58·6	...	...
	Sept.	...	56·2	55·2	...	...
MARCHMONT, (Berwick.)	July	59·4	58·0	57·9	...	...
	Aug.	56·8	56·6	57·2	...	...
	Sept.	52·4	53·5	54·7	...	...

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 31st DECEMBER 1904.

By Dr Buchan, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 60 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE – 56° 33′ N. ; MEAN LONGITUDE – 3° 45′ W.; AND MEAN ELEVATION –279 Feet.

1904.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %.	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
Oct.	29·982	54·2	41·8	48·0	67·5	22·6	47·3	2·1	·276	85	16	2·02	6·3	*
Nov.	29·945	46·2	35·4	40·8	64·0	–0·4	40·7	1·7	·218	86	16	2·31	6·4	*
Dec.	29·773	43·4	33·9	38·6	57·6	6·0	38·4	1·5	·202	88	17	3·59	6·8	*

1904.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
Oct.	47·0	48·5	49·5	–	–	3	2	3	3	7	15	17	8	4	2·5	0	0
Nov.	40·7	43·0	44·3	–	–	7	3	3	1	4	10	18	10	4	2·5	3	1
Dec.	38·0	38·7	39·5	–	–	7	3	3	3	5	14	15	7	5	2·7	1	1

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these returns are compared with the averages for 1856–1900, during the same months, they show the following characteristics and differences :—

OCTOBER 1904—
Mean Barometric Pressure, 29·982 inches ; greater than the average of 1856–1900 by 0·170 inch.
Mean Temperature, 48°·0 ; greater by 1°·5.
Mean Daily Range of Temperature, 12°·4 ; greater by 0°·4.
Mean Humidity, 85 per cent. ; less by 2 per cent.
Rain, Number of Days, 16 ; less by 1 day.
Rain, Depth in Inches, 2·02 ; less by 2·02 inches.
Wind, Mean Force (on Scale of 0–12), 2·5 ; less by 0·3.
Wind, Direction of : a 4 days' excess of winds from S.W. and W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·3 ; less by 0·1.

NOVEMBER 1904—
Mean Barometric Pressure, 29·945 inches ; greater than the average of 1856–1900 by 0·115 inch.
Mean Temperature, 40°·8 ; less by 0°·1.
Mean Daily Range of Temperature, 10°·8 ; greater by 0°·4.
Mean Humidity, 86 per cent. ; less by 2 per cent.
Rain, Number of Days, 16 ; being the average.
Rain, Depth in Inches, 2·31 ; less by 1·53 inch.
Wind, Mean Force (on Scale of 0–12), 2·5 ; less by 0·3.
Wind, Direction of : a 5 days' excess of winds from W. and N.W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·4 ; less by 0·1.

DECEMBER 1904—

Mean Barometric Pressure, 29·773 inches; less than the average of 1856–1900 by 0·009 inch.
Mean Temperature, 38°·6; greater by 0°·6.
Mean Daily Range of Temperature, 9°·5; less by 0°·1.
Mean Humidity, 88 per cent.; being the average.
Rain, Number of Days, 17; being the average.
Rain, Depth in Inches, 3·59; less by 0·57 inch.
Wind, Mean Force (on Scale of 0–12), 2·7; less by 0·1.
Wind, Direction of: a 1 day's excess of winds from W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·8; greater by 0·3.

OCTOBER 1904—

Hence the month of OCTOBER 1904 was characterised by an extremely high mean barometric pressure; a high mean temperature, with a slightly high mean daily range; a rather low mean humidity; an extremely low mean rainfall, with one less than the average number of rainy days; a large excess of moderate winds from W. and S.W.

The mean barometric pressure was 29·982 inches, or 0·170 inch above the normal. At Leith the sea-level pressure was above 30 inches on 2nd, from 8th to 14th, from 18th to 20th, and from 25th to the end of the month. On 5th a rapid fall of the barometer took place, and on the night of 16th a minor disturbance occurred. The extremes at Leith were 30·478 inches on morning of 29th, and 28·833 inches on night of 5th.

The mean temperature was 48°·0, or 1°·5 above the normal, the days being 1°·7 and the nights 1°·3 above their respective averages. At Peterhead alone was temperature below the normal, and at most stations there was an excess of more than 1°·0, whilst in the Edinburgh and Glasgow areas and in a few other districts the excess was more than 2°·0. The mean temperature of the first two weeks was a little below the average, that of the third and fourth greatly above, whilst lower temperatures ruled from 29th to 31st under the influence of easterly winds. Lowest readings were noted at a few stations on 8th or 9th, but at most on 13th when frost occurred in many districts. Highest temperatures occurred chiefly between 18th and 21st, but Dunrobin, Lairg and Inverness reported their maxima on the 4th and extreme Southerly districts theirs between 3rd and 5th. In the Edinburgh district frost in shade did not occur during the month. The absolute maximum was 67°·5 at Tillypronie on 18th, and the minimum 22°·6 at Braemar on 13th.

The mean rainfall was 2·02 inches, or 50 per cent. below the normal, the month being on the whole the driest October since at least 1879 and in many districts the driest on record. At Lairg rainfall was slightly above the average, but all other stations on the mainland reported a decided shortage. Aberdeen, Montrose, Edinburgh and Duns had only one-quarter of their average amounts, and in the Eastern counties generally there was a deficiency of not less than 60 per cent. In Western districts the shortage was relatively less, being 25 per cent at Glencarron and Poltalloch, and ranging at most stations from 40 to 50 per cent. Heaviest falls occurred on 5th, when Glencarron registered 1·42 inch, Lochbuie 1·30, Lerwick 1·16, and Stronvar 1·14, the rainiest days of the month being 5th, 6th and 16th. Lairg and Glencarron had 26 days with rain, but on the East Coast there were very few such days, Smeaton having only 6, whilst at Dundee exactly half the total for the month was registered on 5th.

The weather was unsettled early in the month, and on the night of 5th a gale from S.W. was general. A gale also from S.W. occurred in some districts on night of 16th.

Snow fell at Fort-Augustus on 7th and at Braemar on 8th, and sleet or hail at one or two other stations on these days.

No thunder was reported.

Bright sunshine was just equal the normal at Deerness and Paisley, but in general was decidedly in excess, Marchmont recording 32 hours above the average.

NOVEMBER 1904—

Hence the month of NOVEMBER 1904 was characterised by a high mean barometric pressure; an average mean temperature, with a slightly high mean daily range; a rather low mean humidity; an extremely low mean rainfall, but with the average number of rainy days; a large excess of moderate winds from W. and N.W.

The mean barometric pressure was 29·945 inches, or 0·115 inch above the normal. The most noteworthy fluctuation of the barometer was a rise of nearly 1 inch from 8th to 9th, the most rapid falls occurring on 2nd and 3rd, 7th and 8th, 18th and 19th and on 21st. At Edinburgh the sea-level pressure was above 30 inches from 1st to 4th, on 10th, from 12th to 18th and on 26th, the extremes there being 30·491 inches on evening of 1st, and 29·178 inches on morning of 9th.

The mean temperature was 40°·8, or 0°·1 below the normal, the days being 0°·1 above and the nights 0°·3 below their respective averages. Most northern stations were below the average, Perth by 1°·8, Montrose by 1°·6, Aberdeen by 1°·4 and Lairg by 1°·3,

[*Continued on page* 286.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	Oct.	29·564	...	...	...	...	...	...	...	...	47·1	...	...	...
		Nov.	29·479	...	...	...	...	...	...	...	...	41·6	...	...	...
		Dec.	29·364	...	...	...	...	...	...	...	...	40·0	...	...	...
LERWICK, (Shetland.) G. ALLISON, Harbour Master.	30	Oct.	29·792	51·1	44·1	47·6	...	55·0	4, 5	34·0	13	47·6	2·2	·276	84
		Nov.	29·721	46·5	37·9	42·2	...	52·0	3, 17	25·0	21	41·5	2·2	·217	83
		Dec.	29·584	45·0	37·9	41·4	...	51·0	16	29·0	11	40·6	1·9	·214	86
DEERNESS, (Orkney.) M. SPENCE, Schoolhouse.	172	Oct.	29·707	51·6	44·1	47·8	+1·3	55·8	19	36·5	8	48·1	2·2	·282	84
		Nov.	29·628	46·1	37·9	42·0	−0·3	53·8	17	27·0	21	42·0	2·0	·225	85
		Dec.	29·482	44·2	37·2	40·7	+0·7	50·8	29	26·5	8	40·8	1·7	·219	87
KIRKWALL, (Orkney.) J. S. BEGG, S.S.C.	30	Oct.	29·860	52·8	43·7	48·3	+1·2	57·0	19	35·0	13	48·1	1·6	·296	89
		Nov.	29·779	46·9	37·4	42·2	−0·8	55·0	1, 18	25·0	22	42·2	1·7	·233	88
		Dec.	29·637	44·5	37·0	40·8	0·0	52·0	29	25·0	11	41·1	2·0	·216	84
DUNROBIN, (Sutherland.) D. MELVILLE, Gardener, Dunrobin Castle.	16	Oct.	29·898	53·2	42·1	47·6	+0·5	62·0	4	36·5	24	47·4	2·6	·267	83
		Nov.	29·845	47·2	35·2	41·2	−0·5	56·5	14	19·5	21	41·0	2·1	·213	83
		Dec.	29·692	44·5	34·9	39·7	+0·3	54·5	29	23·5	11	39·3	1·7	·207	87
LAIRG, (Sutherland.) Rev. JOHN K. MACLEAN.	390	Oct.	29·495	53·2	39·3	46·3	+0·7	61·0	4	27·0	13	45·4	1·8	·262	87
		Nov.	29·440	44·4	32·5	38·4	−1·3	55·0	3, 17	14·0	21	38·2	0·8	·214	94
		Dec.	...	...	...	...	...	...	...	...	...	...	...	...	...
GLENCARRON, (Ross.) D. D. MUNRO.	504	Oct.	29·388	51·9	41·8	46·8	+1·5	57·5	21	31·0	13	46·8	2·2	·268	84
		Nov.	29·354	44·5	35·6	40·0	−0·5	55·1	13	15·0	21	40·3	1·5	·219	88
		Dec.	29·179	43·5	34·7	39·1	+1·2	53·4	5	15·6	11	39·2	1·4	·212	88
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	Oct.	29·758	...	...	...	...	...	...	...	...	49·0	...	...	...
		Nov.	29·744	...	...	...	...	...	...	...	...	43·7	...	...	...
		Dec.	29·546	...	...	...	...	...	...	...	...	43·4	...	...	...
KINGUSSIE, (Inverness.) Dr WALTER DE WATTEVILLE.	828	Oct.	29·056	52·0	38·5	45·3	+1·5	56·6	20	25·4	13	45·3	2·3	·250	83
		Nov.	29·002	43·8	31·8	37·8	−0·5	55·2	3	-0·4	22	38·1	1·4	·202	88
		Dec.	28·849	40·7	31·2	36·0	+0·4	52·6	4	10·0	11	36·1	1·2	·190	89
INVERNESS, (Inverness.) THOS. WALLACE, High School.	114	Oct.	29·829	54·1	43·5	48·8	+1·9	60·9	4	34·0	13	48·8	2·7	·280	81
		Nov.	29·781	46·0	37·3	41·6	0·0	56·4	3	15·8	22	41·8	2·0	·225	85
		Dec.	29·619	44·0	35·9	39·9	+1·2	56·8	29	20·6	11	40·0	1·2	·222	90
FORT AUGUSTUS, (Inverness.) Rev. CYRIL VON DIECKHOFF, St Benedict's Priory.	73	Oct.	29·876	53·8	41·6	47·7	+0·9	59·7	21	28·0	13	47·0	1·9	·277	87
		Nov.	29·848	45·2	35·4	40·3	−1·2	55·3	3	12·0	22	40·6	1·3	·225	89
		Dec.	29·672	43·8	34·7	39·2	+0·3	52·7	5	13·2	11	39·5	1·3	·216	90
GORDON CASTLE, (Banff.) C. WEBSTER, Gardener to the Duke of Richmond and Gordon.	107	Oct.	29·834	55·8	41·0	48·4	+1·6	63·0	20	32·3	27	48·2	3·0	·265	79
		Nov.	29·772	47·3	35·5	41·4	0·0	58·5	3, 17	16·5	22	42·0	2·5	·216	82
		Dec.	29·606	44·3	34·5	39·4	+0·7	55·5	16	20·0	11	40·2	2·2	·205	83
BRAEMAR, (Aberdeen.) JAMES AITKEN, Banker.	1114	Oct.	28·763	51·1	37·7	44·4	+1·5	58·8	26	22·6	13	43·9	2·4	·236	82
		Nov.	28·688	42·8	30·9	36·9	−0·6	55·0	3	7·3	26	37·3	1·8	·188	85
		Dec.	28·538	40·2	30·6	35·4	+0·9	51·2	5	6·0	11	35·3	1·7	·174	84
LOANHEAD, (Aberdeen.) ALEX. FARQUHARSON.	747	Oct.	29·141	54·7	38·7	46·7	+2·1	62·4	20	27·0	13	46·6	2·3	·265	84
		Nov.	29·077	46·0	33·3	39·6	+1·1	59·3	3	16·5	26	40·2	1·9	·211	85
		Dec.	28·935	42·3	32·3	37·3	+0·9	55·0	29	10·0	11	37·4	1·2	·200	90
TILLYPRONIE, (Aberdeen.) ROBT. LITTLEJOHN, Gardener to Sir John F. Clark, Bt.	1120	Oct.	28·744	54·3	38·2	46·2	+2·7	67·5	18	29·5	9	44·8	2·8	·235	79
		Nov.	28·673	45·2	32·2	38·7	+1·0	60·5	3	18·0	22	37·9	1·8	·193	85
		Dec.	28·535	42·3	31·7	37·0	+2·2	54·0	29	13·5	11	36·2	1·7	·182	86

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
9·4	24	...	...	...	...	1	0	0	0	26	4	2	6	0	0	1	15	12	18	10	0	4·8
8·5	24	...	...	...	...	8	0	0	0	19	0	2	12	4	10	5	9	3	11	6	0	5·1
9·0	21	...	...	...	...	7	0	0	0	20	0	5	14	3	1	3	7	13	10	11	0	5·0
...	21	4·59	...	1·16	5	0	0	0	...	...	2	3	10	0	0	0	21	13	15	3	0	4·0
...	25	4·14	...	0·61	2	3	0	0	...	...	0	4	15	3	2	0	8	7	11	13	1	4·8
...	25	5·55	...	0·98	11	4	0	0	...	...	0	5	11	8	0	2	11	6	16	7	1	4·6
7·1	18	3·53	− 0·28	0·97	5	1	2	0	1	15	1	3	5	1	0	5	19	11	15	6	0	3·3
6·4	20	3·33	− 0·57	0·38	5, 8	6	1	0	3	9	0	4	13	0	1	0	10	8	22	6	0	3·4
7·0	21	4·47	+ 0·57	1·48	29	5	1	0	0	10	1	17	9	3	2	2	10	15	16	5	0	5·4
...	20	4·19	+ 0·03	1·08	5	...	...	...	...	...	...	...	6	2	0	2	20	12	16	4	0	...
...	20	3·15	− 1·26	0·36	5	...	...	...	...	...	...	...	14	0	2	2	6	6	20	10	0	...
...	20	4·96	+ 0·32	1·65	29	...	...	...	...	...	...	...	14	0	4	0	6	4	28	6	0	...
...	13	1·82	− 1·45	0·57	5	0	1	0	...	...	1	0	5	1	4	2	2	4	33	11	0	...
...	16	2·20	− 1·02	0·40	8	4	0	0	...	...	1	0	16	4	1	1	1	2	21	14	0	...
...	12	2·45	− 0·99	0·70	29	2	0	0	...	...	1	2	13	2	1	1	1	3	26	15	0	...
6·7	26	4·02	+ 0·11	0·80	5	0	1	0	1	14	0	1	3	0	2	5	10	2	24	4	12	2·3
6·6	22	3·32	− 0·39	0·43	8	7	0	0	1	11	1	1	6	0	5	4	2	3	16	16	8	2·5
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7·8	26	7·07	− 2·30	1·42	5	0	0	0	0	15	0	2	9	0	10	0	2	1	39	0	1	3·8
8·9	29	9·12	− 0·15	0·96	4	4	0	0	1	25	0	1	5	1	9	0	0	0	45	0	0	4·0
7·5	25	10·73	+ 0·12	2·38	29	3	0	0	2	18	1	2	11	0	14	0	0	0	37	0	0	4·0
8·2	20	3·97	− 0·87	0·84	6	0	0	0	0	18	3	4	2	3	1	0	12	12	23	9	0	5·6
8·3	26	3·87	− 1·13	0·52	9	8	0	0	0	16	2	5	13	5	0	2	5	7	19	8	1	5·6
9·0	25	5·25	− 0·51	0·91	5	4	0	0	0	23	7	5	6	2	3	1	12	14	19	5	0	5·4
6·8	19	1·39	− 1·76	0·43	4	0	0	0	2	11	0	...	...	...	...	...	...	...	...	...	...	...
6·7	15	2·19	− 0·86	0·42	9	4	0	0	1	14	0	...	...	...	...	...	...	...	...	...	...	...
7·6	17	3·28	− 0·30	0·80	29	3	0	0	0	10	2	...	...	...	...	...	...	...	...	...	...	...
7·0	15	1·43	− 1·00	0·34	5	1	1	0	4	10	8	3	1	2	4	0	4	17	31	3	0	2·0
6·8	16	2·15	− 0·31	0·58	9	6	2	0	1	8	4	3	7	4	1	0	1	19	23	4	1	1·7
7·5	19	2·72	+ 0·23	0·62	4	5	1	0	0	13	10	7	7	1	1	0	3	17	30	2	1	1·7
6·3	18	2·22	− 2·11	0·58	5	1	0	0	1	7	3	1	1	4	0	0	11	19	5	4	18	2·4
7·2	20	1·72	− 3·05	0·38	19	6	0	0	3	11	1	3	1	7	0	0	9	23	0	2	18	2·4
7·6	19	6·78	+ 1·00	1·36	29	4	0	0	1	18	6	6	5	4	0	1	8	18	1	3	22	2·1
6·4	17	1·58	− 1·57	0·32	5	0	0	0	1	7	0	1	0	2	0	10	8	32	3	7	0	1·7
6·2	15	1·93	− 0·87	0·31	23	4	1	1	4	8	0	1	0	4	0	0	8	32	5	11	0	1·2
6·4	16	3·08	+ 0·29	0·83	6	3	1	0	1	5	0	3	4	3	0	6	11	33	3	2	0	2·4
6·0	13	1·29	− 2·67	0·50	5	1	0	0	2	6	2	1	2	0	0	0	0	47	5	8	0	1·3
6·8	16	1·39	− 2·35	0·47	23	8	0	0	0	10	0	0	2	14	0	1	3	21	8	11	0	1·3
7·3	15	1·87	− 1·41	0·63	4	5	0	0	0	10	6	4	2	1	0	0	5	47	1	6	0	1·8
5·2	14	0·60	− 2·65	0·20	5	0	0	0	7	8	1	1	0	1	0	8	2	9	11	9	22	...
4·9	13	1·67	− 1·29	0·39	23	4	0	0	8	8	0	2	0	1	0	2	0	1	14	26	16	...
5·0	18	2·94	+ 0·04	1·23	12	4	0	0	7	5	0	5	2	7	1	6	2	8	3	9	24	...
6·2	11	0·78	− 2·34	0·35	5	0	0	0	0	4	1	3	0	2	0	4	0	21	4	31	0	2·8
6·7	14	1·86	− 0·94	0·35	24	9	0	0	0	11	0	1	15	2	0	1	0	17	1	24	0	3·0
6·9	18	2·73	+ 0·06	0·82	13	5	0	0	0	8	3	3	19	2	0	9	2	9	6	15	0	2·5

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
ABERDEEN, (Aberdeen.) PETER HARPER, Superintendent, Duthie Park.	44	Oct.	29·916	54·5	40·9	47·7	+0·4	60·0	8	31·5	12	46·7	2·4	·264	83
		Nov.	29·846	45·6	34·1	39·9	−1·4	60·0	8	19·4	26	39·3	2·1	·200	84
		Dec.	29·700	42·4	33·3	37·9	−0·3	56·0	29	22·0	9	37·9	1·3	·203	89
PETERHEAD, (Aberdeen.) Dr W. H. M'WALTER, H.M. Prison.	100	Oct.	29·836	53·2	41·7	47·5	−0·6	60·0	19	30·6	9	48·4	2·0	·291	86
		Nov.	29·760	46·8	35·7	41·2	−1·1	58·0	19	24·0	21	41·4	1·6	·228	88
		Dec.	29·621	44·8	34·9	39·8	0·0	55·0	29	22·8	11	40·0	1·2	·222	90
CRATHES, (Kincardine.) J. SMITH, Pinewood.	145	Oct.	29·819	55·0	36·6	45·8	...	61·4	20	26·0	13	46·0	2·6	·252	82
		Nov.	29·738	46·0	31·0	38·5	...	60·3	3	12·0	26	38·4	1·6	·200	87
		Dec.	29·594	42·2	31·6	36·9	...	57·0	29	12·0	11	36·4	1·7	·184	85
MONTROSE, (Forfar.) (Royal Asylum), Dr JOHN G. HAVELOCK.	200	Oct.	29·760	53·7	41·8	47·8	+0·9	60·0	20, 26	31·0	13	46·4	2·1	·267	85
		Nov.	29·690	44·6	34·1	39·4	−1·6	62·0	3	20·0	26	38·5	1·2	·209	90
		Dec.	29·545	41·9	33·5	37·7	−0·3	53·0	17	15·0	11	37·1	0·9	·203	92
ARBROATH, (Forfar.) JAMES CAMPBELL, "For the Natural History Assoc. of Arbroath."	68	Oct.	29·916	54·9	42·2	48·5	+1·6	61·5	26	31·0	13	48·2	2·3	·281	84
		Nov.	29·835	46·3	35·3	40·8	−0·4	63·0	3	25·0	21, 26	40·1	1·8	·212	85
		Dec.	29·699	43·4	34·7	39·0	+0·2	54·0	29	19·0	11	38·5	1·3	·207	89
DUNDEE, Eastern Necropolis, (Forfar.) J. CARNOCHAN, Curator.	164	Oct.	29·826	53·5	41·5	47·5	+1·0	58·4	19	30·0	13	45·4	1·5	·269	89
		Nov.	29·744	45·3	34·9	40·1	−0·5	60·3	3	21·3	26	39·0	1·4	·210	89
		Dec.	29·598	42·5	34·0	38·3	+0·9	54·9	29	17·3	11	37·4	1·0	·204	92
DUNDEE, Harbour, (Forfar.) J. THOMPSON, Jr., Harbour Trust.	20	Oct.	29·979	55·5	43·4	49·4	+1·0	59·2	20	36·2	13	49·1	2·3	·293	84
		Nov.	29·908	47·6	37·2	42·4	+0·4	61·2	3, 4	26·2	26	42·4	2·0	·229	85
		Dec.	29·760	45·0	34·5	39·8	+0·8	55·5	29	22·8	11	39·8	1·4	·217	89
LEDNATHIE, (Forfar.) WM. MORRISON, Gardener to Patrick Stormonth Darling.	720	Oct.	29·193	53·7	37·6	45·6	+1·1	61·5	26	25·8	13	44·4	2·1	·246	84
		Nov.	29·117	44·6	31·2	37·9	−1·0	61·6	3	12·0	26	37·6	1·7	·193	85
		Dec.	28·969	41·3	30·6	36·0	+0·7	52·2	30	8·3	11	36·2	1·5	·186	87
BALRUDDERY, (Forfar.) R. CAIRNS, Gardener to J. Martin White.	280	Oct.	29·680	54·9	40·2	47·5	+1·1	63·0	26	30·0	13	46·6	2·2	·467	85
		Nov.	29·612	47·5	33·3	40·4	−0·3	64·0	3	14·0	21	39·3	1·3	·215	90
		Dec.	29·463	43·6	32·5	38·0	+0·9	55·0	29	14·0	11	37·1	1·2	·197	89
PERTH, (Perth.) JOHN LESLIE, Gardener to Henry Coats.	105	Oct.	29·884	53·9	39·6	46·8	+0·7	60·0	19	26·0	13	46·1	1·7	·273	88
		Nov.	29·818	45·8	32·2	39·0	−1·8	60·0	3	12·0	22	38·7	1·5	·206	88
		Dec.	29·660	42·6	31·2	36·9	−1·0	55·5	17	11·0	11	36·3	0·9	·198	93
STRONVAR, (Perth.) D. L. MACKINTOSH, Gardener to James Carnegie.	422	Oct.	29·537	53·0	40·6	46·8	+1·2	60·0	19	28·0	13	45·9	2·1	·268	86
		Nov.	29·479	47·0	34·1	40·6	+0·8	61·0	3	17·0	22	40·0	2·1	·205	83
		Dec	29·324	41·8	31·6	36·7	−0·2	54·0	4	12·0	11	36·0	1·1	·191	90
OCHTERTYRE, (Perth.) GEORGE CROUCHER, Gardener to Sir Patrick Keith Murray, Bart.	333	Oct.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Nov.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dec.	...	...	...	...	...	...	...	...	...	...	...	...	...
CLATHICK, (Perth.) ALEX. HENDRY.	300	Oct.	29·673	55·9	41·1	48·5	...	63·0	19, 26	28·0	13	47·0	2·2	·271	85
		Nov.	29·610	47·6	34·9	41·2	...	63·0	3	19·0	21	40·6	2·4	·205	82
		Dec.	29·447	43·0	32·2	37·6	...	55·0	29	15·0	11	36·9	1·3	·194	89
CUPAR, (Fife.) Dr TURNBULL, Fife and Kinross District Asylum.	210	Oct.	29·773	56·5	41·7	49·1	+2·7	62·0	19, 27	28·0	13	48·1	2·8	·269	80
		Nov.	29·703	48·6	35·0	41·8	+1·1	64·0	3	21·0	26	42·0	1·7	·231	87
		Dec,	29·550	44·3	34·0	39·1	+0·9	56·0	5, 17	12·0	11	38·8	1·6	·205	87
DUNFERMLINE, (Fife.) Dr J. MACDONALD, High School.	225	Oct.	29·756	54·0	41·9	47·9	...	59·0	6, 19	31·0	13	47·8	2·4	·274	83
		Nov.	29·685	45·7	35·9	40·8	...	57·0	3	20·6	26	40·9	1·8	·218	86
		Dec.	29·539	43·2	33·9	38·5	...	55·0	17	19·6	11	39·3	1·7	·207	87

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
5·2	12	0·79	– 2·27	0·36	5	0	0	0	5	3	2	1	1	1	0	1	10	34	9	6	0	2·0
4·5	10	1·17	– 1·98	0·54	22	3	0	0	5	3	3	0	0	1	0	0	4	19	23	13	0	2·0
4·6	14	2·45	– 0·93	0·74	9	3	0	0	6	7	2	1	1	2	2	3	3	35	10	6	0	2·1
5·8	10	0·99	– 2·47	...	...	0	1	0	4	9	1	2	3	0	0	2	21	6	13	11	3	3·8
5·5	8	0·73	– 2·90	...	...	3	0	0	5	9	0	2	10	0	0	1	22	13	1	9	4	3·8
6·7	13	1·07	– 1·98	...	...	2	1	0	2	11	1	5	4	1	0	1	17	16	7	7	9	3·3
5·3	11	0·57	...	0·24	5	0	0	0	4	5	1	1	3	0	0	1	12	13	16	12	5	2·6
5·1	12	1·33	...	0·74	22	5	1	0	8	8	2	1	1	0	1	1	3	10	9	26	9	2·3
5·7	17	2·02	...	0·65	12	2	0	0	8	11	8	6	1	1	3	1	6	17	10	10	13	2·3
...	9	0·78	– 2·18	0·23	5	0	0	0	...	...	1	1	6	0	1	0	13	20	18	4	0	3·6
...	8	0·77	– 1·97	0·34	30	3	0	0	...	...	0	1	10	0	0	0	8	12	9	21	0	3·6
...	11	2·01	– 0·85	0·48	14	4	0	0	...	...	5	5	12	1	1	4	9	13	18	4	0	3·6
4·3	13	0·74	– 1·69	0·36	5	0	0	0	8	4	7	1	6	1	0	2	5	11	29	3	5	1·7
4·4	10	0·84	– 1·55	0·37	23	4	0	0	6	4	6	0	15	2	0	0	0	10	22	9	2	1·6
5·3	17	1·45	– 1·09	0·32	12	6	0	0	3	9	10	3	11	2	0	2	4	19	13	11	0	2·0
7·7	11	0·78	– 1·88	0·39	5	0	0	0	0	17	3	2	0	8	2	4	0	22	19	7	0	1·7
7·4	13	0·68	– 1·94	0·18	9	3	0	0	3	14	6	1	3	4	0	2	0	11	20	20	0	2·0
8·5	18	1·85	– 0·91	0·37	12	4	0	0	1	20	14	3	2	7	2	2	0	14	28	7	0	2·0
5·6	11	0·78	...	0·32	5	0	0	0	4	6	5	2	0	4	3	1	3	13	28	8	2	2·5
6·7	13	0·62	...	0·16	10	2	0	0	2	11	5	1	7	2	3	0	1	5	35	7	0	2·7
8·0	14	1·75	...	0·40	12	4	0	0	0	18	5	1	6	1	5	1	0	11	33	5	0	2·4
6·1	13	1·63	– 2·91	0·85	5	1	0	0	2	8	1	3	8	2	0	1	2	10	21	19	4	2·7
5·5	16	0·77	– 3·99	0·28	23	10	0	0	4	7	0	5	4	2	1	0	1	3	17	26	6	3·2
5·8	18	3·33	– 0·97	1·15	4	6	0	0	3	8	4	4	2	10	2	2	0	6	14	21	5	2·4
5·5	12	1·38	...	0·55	6	0	0	0	4	4	2	2	1	3	0	3	1	12	25	17	0	3·1
5·4	8	0·55	...	0·18	9	3	0	0	2	6	0	1	4	4	0	1	0	4	20	27	0	3·6
6·0	17	2·13	...	0·36	5	2	0	0	1	9	4	3	8	5	4	2	0	3	17	23	0	3·1
5·2	...	1·09	– 2·07	...	...	0	0	0	9	9	...	...	0	0	1	0	2	5	21	5	28	0·9
4·9	...	0·60	– 2·40	...	...	2	0	0	6	9	2	0	8	4	1	2	1	0	25	0	19	1·1
5·3	...	2·17	– 0·96	...	...	2	0	0	11	12	8	2	3	0	2	0	0	5	19	5	28	1·3
...	22	4·29	– 3·31	1·14	5	0	0	0	...	...	1	2	2	0	10	4	0	18	12	16	0	3·5
...	22	2·63	– 7·20	0·73	8	3	0	0	...	...	1	1	0	8	2	2	0	20	8	20	0	3·8
...	22	9·57	+ 1·52	1·37	4	4	0	0	...	...	0	5	2	4	2	4	0	16	28	6	0	4·2
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	..	...	...	...	...	...
6·2	19	1·53	...	0·48	5	0	0	0	5	12	2	1	11	7	8	1	3	9	10	13	0	2·7
6·2	12	0·74	...	0·19	8	7	0	0	2	9	0	3	17	4	13	0	0	2	14	10	0	3·7
6·2	13	2·54	...	0·52	14	3	0	0	1	9	3	4	22	10	8	0	2	6	13	1	0	3·2
...	8	0·51	– 2·17	0·14	5	...	...	...	...	...	...	0	12	1	7	1	3	7	24	6	1	2·8
...	7	0·35	– 2·25	0·12	9	...	...	...	...	...	...	0	17	0	1	0	1	7	20	10	4	2·5
...	12	1·08	– 1·69	0·54	12	...	...	...	...	...	...	1	13	0	1	0	3	4	26	15	0	2·9
6·8	11	0·90	...	0·26	5	0	0	0	4	11	7	1	4	5	1	1	4	8	34	5	0	1·3
7·6	10	0·80	...	0·23	10	3	0	0	0	17	4	0	10	5	0	0	0	5	35	5	0	1·3
7·8	17	3·01	...	0·95	12	2	0	0	1	14	11	2	9	3	2	0	1	13	31	3	0	1·1

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A.	B.										
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Maximum.	Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°		°	°	°	inch.	%
BUCHLYVIE, (Stirling.)	125	Oct.	29·875	53·0	41·2	47·1	+0·8	58·0	19	26·0	13	47·2	1·7	·285	89
Rev. JOHN A. MACDONALD.		Nov.	29·817	45·9	34·2	40·1	+0·6	58·0	3	14·0	21, 22	40·9	1·6	·222	87
		Dec.	29·654	42·8	32·8	37·8	+0·6	54·5	4	11·0	11	37·9	1·1	·207	91
HELENSBURGH,	18	Oct.	...	55·3	40·1	47·7	+1·2	61·0	20	32·0	12, 14	47·2	1·3	·294	91
(Dumbarton.)		Nov.	...	45·7	35·4	40·6	−0·6	55·2	5	15·6	22	40·2	1·0	·228	92
J. R. WILSON, Waterworks.		Dec.	...	44·0	35·2	39·6	+0·9	52·0	17	25·0	11	38·6	1·3	·209	90
DUMBARTON, (Dumbarton.)	27	Oct.	29·980	56·7	42·7	49·7	+2·2	60·1	4	30·0	30	48·7	2·4	·286	83
WILLIAM DENNY AND		Nov.	29·936	46·8	37·1	42·0	+0·5	55·4	4	18·3	22	42·1	1·9	·228	85
BROTHERS.		Dec.	29·770	44·7	35·4	40·0	+0·8	55·0	5	18·0	11	39·8	1·7	·211	87
LOCHBUIE, (Argyll.)	20	Oct.	29·961	55·7	45·8	50·8	+2·4	63·5	29	37·0	13	50·0	2·1	·307	85
J. T. MANNARY, Gardener to		Nov.	29·954	47·7	40·3	44·0	+0·1	54·0	5	27·0	22	44·1	1 9	·247	85
the Maclaine of Lochbuie.		Dec.	29·772	47·1	38·2	42·6	+1·4	55·0	30	25·2	11	42·5	1·5	·239	88
AIRDS, (Argyll.)	15	Oct.	29·960	54·1	44·8	49·5	+1·1	58·0	6	40·0	7, 31	49·5	1·6	·314	89
Colonel MACFIE, C.B., and		Nov.	29·935	48·4	38·8	43·6	−0·3	55·0	3, 4	24·0	22	44·4	1·6	·257	88
ALEXANDER M'LACHLAN.		Dec.	29·776	47·1	37·4	42·2	+0·6	57·0	17	29·0	11	42·5	1·6	·238	87
POLTALLOCH, Lochgilphead	135	Oct.	29·863	56·6	41·9	49·2	+1·9	63·0	1	31·0	13	47·8	0·9	·311	93
(Argyll.)		Nov.	29·823	48·5	36·9	42·7	+0·8	56·0	14	27·0	10, 25	42·6	1·4	·242	89
D. S. MELVILLE, Gardener.		Dec.	29·652	45·5	35·4	40·4	+0·7	55·0	5, 30	22·0	11	39·9	0·7	·231	95
ROTHESAY, (Isle of Bute.)	116	Oct.	29·887	55·1	43·8	49·4	+1·9	61·0	18	36·2	12	48·0	1·7	·292	88
JAMES KAY,		Nov.	29·849	47·7	37·3	42·5	0·0	54·5	3, 4	20·5	22	41·6	1·3	·236	90
Barone Cottage.		Dec.	29·674	45·2	36·9	41·0	+1·1	54·5	16	25·0	11	40·0	1·5	·217	88
GREENOCK, (Renfrew.)	238	Oct.	29·763	54·4	42·9	48·6	+1·7	59·2	19	35·2	13	49·4	2·0	·303	87
DANIEL MACALISTER, C.E.,		Nov.	29·717	47·4	37·3	42·3	+0·6	57·0	4	22·2	22	43·6	1·7	·247	87
Waterworks.		Dec.	29·550	44·8	35·3	40·1	+0·8	55·7	5	21·5	11	41·4	1·6	·228	88
PAISLEY, (Renfrew.)	107	Oct.	29·899	55·5	44·2	49·8	+2·2	63·7	6	31·2	13	49·0	2·4	·289	83
DONALD MACLEAN,		Nov.	29·851	47·6	37·8	42·7	+0·5	58·1	4	23·9	22	42·6	1·9	·224	86
The Coats Observatory.		Dec.	29·679	44·6	36·4	40·5	+1·1	55·2	29	19·9	11	40·1	1·7	·214	86
BOWHILL, (Ayr.)	978	Oct.	28·969	50·6	40·4	45·5	+2·3	55·0	19, 21	35·0	8	45·4	1·6	·267	89
ALEXANDER GILLESPIE, C.E.		Nov.	28·910	45·6	34·7	40·1	+1·1	51·0	3, 17	20·0	21	39·6	1·0	·223	92
		Dec.	28·737	41·6	32·1	36·8	+1·0	51·0	4	22·0	11	37·1	1·0	·201	91
KILMARNOCK, (Ayr.)	74	Oct.	29·945	54·4	43·2	48·8	...	59·0	19	31·0	13	49·0	2·4	·289	83
GLENFIELD & KENNEDY, Ltd.		Nov.	29·905	46·6	35·1	40·8	...	57·0	6	5·0	22	40·9	1·6	·222	87
		Dec.	29·730	43·7	34·5	39·1	...	55·0	4	19·0	11	39·4	1·7	·208	87
GLASGOW, Belvidere Hosp.,	54	Oct.	29·960	54·9	44·0	49·4	+2·3	60·9	21	29·9	13	49·5	2·5	·292	83
(Lanark.)		Nov.	29·910	47·2	37·9	42·5	+0·3	56·2	13	22·8	26	43·0	2·1	·232	83
Dr JOHN BROWNLEE.		Dec.	29·744	44·8	36·2	40·5	+1·3	55·8	4	20·0	11	40·4	1·8	·214	86
GLASGOW, Observatory,	184	Oct.	29·814	53·1	44·7	48·9	+2·5	58·1	21	34·9	13	48·4	2·4	·281	83
(Lanark.)		Nov.	29·762	46·2	38·4	42·3	+0·5	55·1	3	23·4	26	42·1	1·8	·230	86
Prof. BECKER, F.R.S.E.		Dec.	29·598	43·8	36·6	40·2	+1·2	54·5	4	21·9	11	39·8	1·7	·211	87
BOTHWELL, (Lanark.)	150	Oct.	...	54·6	42·2	48·4	...	61·0	21	30·4	13	47·5	1·7	·287	88
Dr JOHN T. WILSON.		Nov.	...	46·4	36·1	41·2	...	58·0	13	18·0	26	41·0	2·2	·211	83
		Dec.	...	43·8	33·8	38·8	...	54·6	29	18·0	11	38·8	1·7	·203	86
		Oct.	...	51·3	37·1	44·2	...	59·9	30	29·1	31	42·8	2·0	·233	85
LEADHILLS, (Lanark.)	1300	Nov.	...	42·9	30·5	36·7	...	50·5	8	14·1	28	36·1	1·4	·187	87
JAMES M'FARLANE.		Dec.	...	41·2	28·8	35·0	...	55·9	28	20·0	8, 10	32·6	1·4	·155	84

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
4·1	23	3·03	−1·41	0.78	5	0	0	0	5	2	1	1	**0**	0	6	0	1	15	26	8	6	2·2
4·9	24	2·38	−2·80	0·79	8	4	0	0	5	3	2	3	**3**	1	3	2	1	11	26	8	5	2·7
6·0	23	6·18	+0·24	0·77	4	4	0	0	5	11	9	7	**0**	1	6	4	0	24	17	1	9	2·3
...	20	2·41	−2·06	0·63	5	...	...	...	...	...	...	...	**12**	0	14	4	12	4	10	6	0	...
...	20	3·19	−1·63	1·31	8	...	...	...	...	...	...	...	**16**	2	18	0	10	0	12	2	0	...
...	20	5·66	+0·36	0·98	4	...	...	...	...	...	...	...	**12**	2	8	14	18	2	0	6	0	...
...	18	1·95	−2·76	0·47	5	...	...	...	...	...	...	...	**0**	0	2	8	4	4	12	14	18	0·9
...	20	2·76	−2·30	1·26	8	...	...	...	...	...	...	...	**6**	0	2	4	4	4	6	14	20	0·8
...	18	4·10	−1·14	0·77	4	...	...	...	...	...	...	...	**4**	4	2	12	2	8	4	6	20	1·1
6·6	23	8·42	...	1·30	5	0	0	0	8	13	0	2	**0**	0	8	8	6	22	8	4	6	2·4
7·1	25	6·92	...	2·00	8	3	0	0	3	16	0	2	**8**	6	2	0	6	8	18	4	8	2·4
7·1	19	8·74	...	1·00	12	0	1	0	4	20	1	3	**8**	8	6	0	4	14	8	4	10	4·4
8·6	14	3·25	−2·23	...	...	...	...	...	...	...	...	...	**2**	1	4	9	16	7	22	1	0	2·3
8·6	15	3·25	−2·43	...	...	...	...	...	...	...	...	...	**6**	0	9	7	7	7	24	0	0	2·5
8·5	14	4·40	−1·87	...	...	...	...	...	...	...	...	...	**7**	0	12	7	16	7	13	0	0	4·8
7·4	25	4·13	−1·41	0·72	5	0	0	0	3	16	0	1	**1**	0	0	1	5	15	16	2	22	2·1
7·8	24	5·35	+0·02	1·82	8	2	2	0	1	16	1	0	**2**	0	0	0	0	4	16	4	34	2·0
7·8	21	6·08	+0·23	0·85	2	4	0	0	2	17	6	3	**3**	2	1	2	3	11	5	3	32	1·9
7·6	20	2·74	−1·99	0·57	23	0	0	0	2	18	0	1	**1**	3	5	3	7	9	17	5	12	1·6
7·1	23	4·02	−0·87	1·42	8	1	0	0	2	14	0	0	**3**	4	2	0	5	4	19	11	12	1·5
7·7	17	4·26	−0·63	0·74	4	2	1	0	2	19	6	3	**0**	3	3	8	6	8	11	10	13	1·5
7·7	23	3·50	−2·72	0·91	16	0	0	0	0	17	3	2	**0**	0	4	12	0	13	17	9	7	2·6
7·6	21	4·09	−2·33	1·61	8	3	0	0	0	12	2	0	**1**	0	4	4	0	12	25	11	3	2·5
8·2	17	6·11	−1·49	0·93	16	1	0	0	2	19	4	3	**0**	0	3	10	0	21	18	7	3	2·4
7·2	18	2·19	−1·92	0·62	5	0	0	0	2	16	14	0	**3**	1	6	1	11	4	22	2	12	1·6
6·7	21	2·21	−1·77	1·09	8	5	1	0	2	14	13	1	**6**	0	3	0	3	3	29	5	11	1·4
7·4	19	3·81	−0·96	0·70	16	0	0	1	3	20	16	2	**6**	1	2	0	12	3	11	2	25	1·5
7·2	21	3·52	...	0·54	5	...	...	...	0	6	...	...	**1**	0	4	7	13	15	13	9	0	3·4
7·3	23	6·18	...	2·38	8	...	...	...	0	4	...	...	**5**	2	1	5	11	9	17	10	0	3·6
7·6	20	4·68	...	0·67	17	...	...	..	0	8	...	...	**6**	3	4	9	17	15	7	1	0	3·4
...	16	1·94	...	0·41	5	0	0	0	...	...	0	0	**0**	0	8	3	9	14	22	2	4	1·7
...	22	3·68	...	1·42	8	2	0	0	...	...	0	0	**4**	3	9	3	5	15	16	3	2	1·5
...	17	2·89	...	0·36	12	1	0	0	...	...	0	1	**3**	2	11	12	11	13	6	4	0	1·9
7·2	18	1·26	−2·28	0·34	5	0	0	0	1	11	2	0	**6**	1	26	3	0	3	1	18	4	1·1
7·3	20	2·40	−1·34	0·82	8	2	0	0	0	13	2	0	**12**	4	18	0	0	2	3	19	2	1·3
6·3	16	3·61	−0·29	0·72	12	2	0	0	2	8	7	1	**8**	8	22	2	3	5	3	8	3	1·0
8·0	16	1·31	−2·35	0·40	5	0	0	0	1	19	0	0	**0**	2	2	1	2	18	13	1	23	1·0
8·1	19	1·95	−1·76	0·75	8	3	0	0	0	18	2	0	**1**	2	2	0	0	16	15	4	20	1·1
8·5	18	3·24	−0·70	0·50	4	3	0	0	0	21	3	0	**2**	1	1	1	2	18	3	4	30	0·9
...	12	1·33	−1·15	0·36	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	16	1·13	−1·48	0·28	10		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	16	3·02	+0·14	0·58	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	15	2·98	...	0·71	5	0	0	0	...	...	6	2	...	...	...	...	...	...	...	...	...	...
...	20	3·62	...	1·41	8	5	0	0	...	...	5	1	...	...	...	...	...	...	...	...	...	...
...	10	4·83	...	2·09	17	4	0	0	...	...	8	2	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1904.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.	°	°	°	°	°		°		°	°	inch.	%
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. COPELAND, F.R.S.E.	441	Oct.	29·528	53·5	43·5	48·5	+2·5	57·9	21	37·7	9	47·8	2·6	·270	81
		Nov.	29·457	45·7	37·6	41·6	+0·6	56·4	13	24·5	26	41·3	1·7	·225	87
		Dec.	29·307	43·3	35·4	39·4	+1·4	55·9	17	24·2	11	39·2	2·0	·202	84
CORSTORPHINE, (Edinburgh.) Dr T. N. JOHNSTON, F.R.S.E.	165	Oct.	29·830	55·6	41·2	48·4	+2·2	60·0	11	38·2	13	47·3	2·4	·270	83
		Nov.	29·762	47·0	35·7	41·4	+0·7	56·8	3, 11	23·5	25	41·2	1·8	·221	86
		Dec.	29·609	43·9	33·9	38·9	+0·9	57·6	5	18·5	11	38·5	1·6	·201	87
LEITH, (Edinburgh.) JAMES BOLAM, Nautical College, and GEORGE REDPATH.	76	Oct.	29·922	55·2	44·4	49·8	+2·5	59·6	12	35·0	18	48·8	2·5	·285	82
		Nov.	29·859	47·3	39·5	43·4	+1·1	57·7	3	27·1	26	43·2	2·2	·232	83
		Dec.	29·705	44·2	36·5	40·4	+0·9	57·3	17	23·7	11	40·5	1·9	·213	85
DALKEITH, (Edinburgh.) J. WHYTOCK, Gardener to the Duke of Buccleuch.	190	Oct.	29·798	54·8	41·1	48·0	+0·9	58·9	11	36·0	15	47·9	2·1	·382	86
		Nov.	29·737	46·5	38·8	42·6	+1·2	56·9	18	23·0	26	41·8	1·9	·227	86
		Dec.	29·582	43·3	35·2	39·2	+1·0	55·5	17	21·0	11	39·1	1·5	·208	88
SMEATON, (Haddington.) JOHN BLACK, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Oct.	29·904	53·9	42·0	48·0	+1·2	57·0	3, 21	31·0	13	47·5	2·4	·271	83
		Nov.	29·835	46·6	37·4	42·0	+1·1	57·0	3	27·0	26	41·1	2·0	·216	84
		Dec.	29·680	44·4	34·8	39·6	+1·5	56·0	5, 17	19·0	9	38·8	1·7	·203	86
MARCHMONT, (Berwick.) JOHN A. WOOD, Gardener.	500	Oct.	29·485	54·5	39·4	47·0	+1·3	59·0	18, 19	30·0	15	47·5	2·5	·269	82
		Nov.	29·408	46·2	35·3	40·7	+0·9	56·0	3, 4	24·0	21	40·7	1·8	·220	87
		Dec.	29·249	42·0	31·9	36·9	+0·4	54·0	5	18·0	11	36·7	1·3	·193	89
DUNS CASTLE, (Berwick.) JAMES REDPATH, Gardener to F. S. Hay.	500	Oct.	29·481	55·4	39·2	47·3	+1·6	61·0	18, 19	30·5	14	46·8	2·2	·228	84
		Nov.	29·406	47·1	34·8	41·0	+1·0	60·0	3	22·5	21	40·3	1·9	·212	85
		Dec.	29·253	43·3	31·9	37·6	+1·0	55·0	4, 5	19·5	11	36·9	1·3	·194	89
STOBO CASTLE, (Peebles.) WILLIAM YOUNG, Gardener to Sir B. T. G. Montgomery, Bart.	600	Oct.	29·366	53·4	39·6	46·5	+1·2	60·0	19	25·0	13	45·7	1·4	·275	90
		Nov.	29·304	43·6	34·8	39·2	−0·4	57·0	4	10·0	26, 27	39·5	1·2	·218	90
		Dec.	29·156	42·8	30·9	36·9	+0·4	55·0	17	8·0	11	35·8	1·2	·189	90
BROOMLANDS, (Roxburgh.) JAMES BRUNTON.	205	Oct.	29·807	55·5	38·7	47·1	+0·6	61·0	17, 18	26·0	14	46·8	2·2	·268	84
		Nov.	29·738	46·8	34·6	40·7	+0·1	58·0	4	18·0	26	40·3	1·4	·223	89
		Dec.	29·592	42·7	31·7	37·2	−0·4	55·0	4, 17	16·0	11	37·8	1·2	·204	90
WOLFELEE. (Roxburgh.) ARTHUR HUME, Gardener to J. T. S. Elliot.	537	Oct.	29·431	53·6	...	...	...	59·0	19	...	...	45·0	1·2	·271	91
		Nov.	29·366	45·2	...	...	...	56·0	3	...	...	39·0	0·9	·220	93
		Dec.	29·215	41·4	...	...	...	52·0	4, 17	...	...	34·9	0·9	·185	91
DRUMLANRIG, (Dumfries.) DAVID INGLIS, Gardener to the Duke of Buccleuch.	191	Oct.	29·825	54·6	40·6	47·6	+0·7	60·0	19	26·0	13	46·3	1·4	·281	90
		Nov.	29·758	46·7	35·9	41·3	+0·3	59·0	3	16·0	26	39·9	1·2	·222	91
		Dec.	29·611	42·0	31·2	36·6	−1·4	54·0	4, 29	16·0	11	35·4	1·1	·186	90
DUMFRIES, (Dumfries.) Rev. WILLIAM ANDSON.	60	Oct.	29·974	55·9	41·4	48·7	+1·2	63·0	6	29·8	13	48·2	2·2	·283	85
		Nov.	29·913	47·5	36·4	42·0	+0·1	56·0	9, 12	19·5	26	41·6	2·1	·220	85
		Dec.	29·757	42·5	32·6	37·6	−1·2	53·0	17	19·5	11	37·7	1·4	·199	88
CARGEN, (Kirkcudbright.) ALEX. PEACOCK, Gardener to Colonel Dudgeon.	85	Oct.	...	...	...	...	...	59·0	3	30·0	13, 14	...	...	...	...
		Nov.	...	...	...	...	...	57·0	3	17·0	26	...	...	...	...
		Dec.	...	...	...	...	...	55·0	17	22·0	27	...	...	...	...
CALLY, (Kirkcudbright.) WM. THOMSON, Gardener to H. G. Murray Stewart of Broughton.	120	Oct.	29·909	56·5	41·5	49·0	+1·7	60·0	5	30·5	13	48·3	1·4	·304	90
		Nov.	29·863	47·5	35·4	41·4	−0·7	57·0	1	20·7	22	41·5	1·0	·241	92
		Dec.	29·708	42·9	34·0	38·4	−0·9	51·7	4	20·5	11	38·5	1·0	·213	92

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
5·4	9	0·54	−1·99	0·22	5	0	0	0	5	7	1	2	0	2	3	2	14	13	25	2	1	3·1
6·0	13	1·06	−1·30	0·38	9	2	0	0	2	8	1	0	4	0	2	1	3	7	35	7	1	3·0
6·2	17	2·40	+0·09	0·90	12	4	0	0	1	6	6	4	4	0	3	0	8	19	25	2	1	3·5
...	14	0·85	...	0·28	5	...	...	...	...	...	...	...	11	0	9	0	2	2	36	0	2	2·4
...	16	1·13	...	0·35	9	...	...	...	...	...	...	...	14	2	8	0	0	1	34	0	1	2·4
...	17	3·12	...	0·80	12	...	...	...	...	...	...	...	16	0	5	1	3	0	33	1	3	2·2
6·4	15	0·82	−1·80	0·24	5	0	0	0	7	13	2	0	2	0	6	2	8	6	30	8	0	3·4
6·4	15	0·87	−1·50	0·24	9	2	1	0	5	14	1	0	6	0	0	0	8	8	34	4	0	3·6
7·6	18	2·45	+0·12	0·58	12	3	0	0	5	19	2	1	2	0	4	0	8	4	36	8	0	3·4
4·9	...	0·50	...	...	...	0	0	0	9	9	2	0	0	3	3	2	9	22	10	13	0	1·2
6·2	...	0·64	...	...	...	2	0	0	4	10	1	0	3	3	1	3	6	17	10	17	0	0·8
6·5	...	1·50	...	...	...	3	0	0	2	12	3	1	2	1	2	4	7	22	7	17	0	1·2
4·4	6	0·47	−2·04	0·24	5	0	0	0	4	0	1	2	0	0	5	1	10	28	13	5	0	...
4·8	11	1·48	−0·92	0·43	9	3	0	1	3	4	1	1	7	3	5	2	8	15	15	5	0	...
4·9	9	1·60	−0·43	0·54	12	3	0	0	2	2	6	3	2	4	2	0	14	19	21	0	0	...
4·7	9	1·16	−2·42	0·32	5	0	0	0	10	8	0	2		1	2	3	6	22	21	0	0	4·0
6·4	12	1·66	−1·70	0·44	23	5	0	0	3	12	0	0	13	1	3	2	3	10	25	3	0	3·4
6·1	17	2·63	−0·44	0·72	9	2	0	0	5	12	1	3	9	0	2	0	6	14	27	4	0	3·3
6·1	11	0·83	−2·55	0·30	5	0	0	0	6	8	0	0	0	4	3	1	4	19	17	14	0	0·7
5·9	15	1·46	−1·56	0·52	23	4	0	0	3	11	0	0	14	1	2	1	1	12	20	9	0	0·9
6·4	15	2·16	−0·98	0·62	9	4	0	0	3	11	0	2	7	9	3	1	1	17	7	17	0	1·7
6·4	12	1·00	−2·23	...	...	0	0	0	0	6	13	0	3	0	10	1	9	9	29	0	1	1·4
6·4	13	1·90	−1·53	...	...	4	0	0	4	13	2	2	6	0	5	0	4	9	26	7	3	1·4
6·9	13	2·50	−1·11	...	...	4	0	0	1	10	1	4	10	4	2	0	2	11	17	15	1	3·6
5·6	11	0·97	−1·81	0·30	5	0	0	0	0	2	0	0	0	0	4	0	0	37	10	2	9	1·1
6·1	14	1·61	−0·99	0·45	23	3	0	1	0	4	0	0	6	2	4	0	0	32	11	2	3	1·4
5·9	19	1·98	−0·38	0·53	9	...	...	...	1	3	...	3	2	1	2	0	2	39	4	0	12	1·6
...	12	1·11	−2·91	0·39	16	0	0	0	...	...	0	1	0	5	0	4	2	30	8	13	0	1·4
...	12	2·22	−1·96	0·62	23	4	0	0	...	...	0	0	2	9	0	0	3	14	21	11	0	1·0
...	14	1·84	−2·59	0·50	9	6	1	0	...	...	0	3	3	3	0	4	3	34	8	7	0	1·2
...	19	2·32	−2·19	0·53	5	0	0	0	...	...	0	1	7	0	0	1	5	22	7	20	0	...
...	16	1·82	−2·90	0·35	23	1	0	0	...	...	0	0	14	0	0	1	6	13	6	20	0	...
...	21	3·73	−0·96	0·80	16	3	0	0	...	...	5	3	14	9	0	4	3	10	5	16	1	...
...	14	1·89	−1·71	0·56	16	0	0	0	...	...	2	2	0	2	5	7	5	20	15	7	1	2·3
...	16	2·55	−1·33	0·59	21	8	0	0	...	...	1	0	3	3	3	4	5	17	15	9	1	2·3
...	18	2·84	−1·47	0·64	16	2	0	0	...	...	5	3	2	6	4	6	4	19	8	10	3	2·3
...	10	2·28	−2·08	0·72	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	9	3·10	−1·33	0·90	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	13	3·47	−1·57	0·75	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5·1	18	3·16	−1·73	0·60	5	0	0	0	3	4	0	1	4	7	3	7	6	12	7	16	0	2·1
4·7	18	3·01	−2·03	0·61	8	6	0	0	5	4	0	2	0	19	3	9	1	10	7	11	0	2·3
4·7	17	3·20	−2·30	0·76	4	2	0	0	5	2	3	3	0	16	3	14	3	9	3	14	0	2·3

BRIGHT SUNSHINE.

STATIONS.	1904.	SUNSHINE.		
	Months.	Total Observed.	Difference from Average.	Per centage of Possible.
		hours.	hours.	%
DEERNESS, (Orkney.)	Oct.	80·6	− 0·1	28
	Nov.	46·4	+ 9·5	21
	Dec.	19·1	− 6·5	11
INVERNESS, (Inverness.)	Oct.	90·0	+20·0	29
	Nov.	61·3	+19·3	26
	Dec.	39·7	+16·7	20
FORT AUGUSTUS, (Inverness.)	Oct.	67·0	+ 6·0	21
	Nov.	21·2	+ 2·2	9
	Dec.	11·0	+ 2·5	5
FORT WILLIAM, (Inverness.)	Oct.	...	...	...
	Nov.	...	...	...
	Dec.	...	...	...
CRATHES, (Kincardine.)	Oct.	127·8	...	41
	Nov.	84·4	...	35
	Dec.	39·9	...	20
BALRUDDERY, (Forfar.)	Oct.	96·1	...	31
	Nov.	69·3	...	29
	Dec.	51·8	...	25
PAISLEY, (Renfrew.)	Oct.	83·4	− 0·6	26
	Nov.	42·4	+ 4·4	18
	Dec.	27·7	+ 5·7	13
GLASGOW, (Lanark.)	Oct.	83·5	+14·2	26
	Nov.	30·3	+ 4·1	13
	Dec.	19·6	+ 3·3	9
EDINBURGH, (Edinburgh.)	Oct.	125·0	+28·1	39
	Nov.	60·7	− 5·7	25
	Dec.	37·9	+ 6·7	18
DUNS CASTLE, (Berwick.)	Oct.	121·2	...	38
	Nov.	62·5	...	26
	Dec.	39·5	...	19
MARCHMONT, (Berwick.)	Oct.	117·4	+32·0	37
	Nov.	55·6	+ 4·5	23
	Dec.	38·0	+ 5·9	18

UNDERGROUND TEMPERATURE.

STATIONS.		1904.	UNDERGROUND TEMPERATURE.				
		Months.	Depth in Inches.				
			3	12	22	36	48
			°	°	°	°	°
DUNROBIN,	**(Sutherland.)**	Oct.	46·0	48·5	49·1	...	...
		Nov.	40·2	43·1	43·4	...	...
		Dec.	37·1	39·1	39·5	...	...
ARBROATH,	**(Forfar.)**	Oct.	46·8	47·7	48·8	...	...
		Nov.	39·8	41·5	43·5	...	...
		Dec.	37·0	37·4	38·4	...	...
OCHTERTYRE,	**(Perth.)**	Oct.	...	...	...	...	...
		Nov.	...	...	...	...	...
		Dec.	...	...	...	...	...
POLTALLOCH,	**(Argyll.)**	Oct.	49·0	50·7	50·5	...	...
		Nov.	43·2	45·4	45·0	...	...
		Dec.	40·4	40·7	40·2	...	...
PAISLEY,	**(Renfrew.)**	Oct.	48·3	49·1	51·2	...	...
		Nov.	42·0	43·1	46·7	...	...
		Dec.	40·0	40·5	42·9	...	...
CORSTORPHINE,	**(Edinburgh.)**	Oct.	46·8	48·9	49·6	...	...
		Nov.	40·5	43·4	44·5	...	...
		Dec.	37·4	38·6	39·2	...	...
SMEATON,	**(Haddington.)**	Oct.	...	47·7	48·2	...	...
		Nov.	...	42·8	43·2	...	...
		Dec.	...	37·9	37·6	...	...
MARCHMONT,	**(Berwick.)**	Oct.	45·2	46·8	48·8	...	...
		Nov.	39·3	41·4	43·8	...	...
		Dec.	36·0	37·0	38·9	...	...

Continuation of page 275.]

and most Southern stations above; but at many the differences from the normal were very slight. From 1st to 19th the prevailing winds were from W. and S.W., and the weather as a rule very mild, many stations not recording frost during that period. The week ending 19th was in most districts fully 5°·0 warmer than usual, but the maximum for the month was generally noted on the 3rd when the thermometer rose above 60°·0 in Eastern districts from Fife to Aberdeen. From 20th to 26th a notable spell of cold weather occurred under the influence of N.W. winds. Lowest temperatures were usually noted on 22nd, when Kingussie reported a zero reading and Stronvar 7°·0, or on 26th, when Braemar had a minimum of 7°·3 and Stobo of 10·0. During this week temperature at many stations did not rise to 40°·0 and was as a rule fully 7°·0 below the normal. After 27th mild weather again prevailed. The absolute maximum was 64°·0 at Cupar and Balruddery on 3rd, and the minimum – 0°·4 at Kingussie on 22nd.

The mean rainfall was 2·31 inches, or 40 per cent. below the normal. In the islands of Lewis and Arran, in the extreme South West, and at Glencarron and Poltalloch, rainfall was above or just equal to the average; but over the country generally there was a most pronounced shortage. Most Eastern districts had much less than half their average amounts, several stations reporting less than 1 inch for the month, and Lednathie, Perth and Cupar only one-fifth or less of their normal rainfalls. At Fort Augustus and in Central Perthshire and the Upper Nith Valley the shortage was more than 60 per cent., but in general the deficiency was less towards the West and much less towards the North, being about 40 per cent. in the Clyde area and averaging about 20 per cent. in Caithness, Sutherland and Ross. Between 7th and 9th heavy rains were general, Dunoon, Lochbuie and Bowhill (Ayrshire) reporting amounts of 2 inches or over on 8th, and on the 10th the Doon and other Southern rivers were in high flood. The wettest periods thereafter were from 16th to 20th in West, and from 21st to 23rd in North and East. In Eastern districts hardly any rain fell from 1st to 5th and from 11th to 19th.

The weather was stormy from 7th to 10th and extremely unsettled during the cold week from 20th to 26th, a snowstorm occuring in all districts between 21st and 24th.

Thunder reported at Gordon Castle and Broomlands on 23rd and at Smeaton on 24th.

A good deal of fog occurred towards the end of the month.

Bright sunshine a little above the average in nearly all districts.

DECEMBER 1904—

Hence the month of DECEMBER 1904 was characterised by a mean barometric pressure nearly the average; a slightly high mean temperature, with an average mean daily range; an average mean humidity; a rather low mean rainfall, with the average number of rainy days; a slight excess of moderate winds from W.

The mean barometric pressure was 29·773 inches, or 0·009 inch below the normal. A fall of fully three-quarters of an inch on 11th and 12th gave lowest readings for the month on the latter day, whilst considerable disturbances occurred also on 4th and 29th. From 18th to 28th the barometer at Leith at sea-level remained above 30 inches, the extremes there being 30·557 inches on 19th and 28·870 inches on 12th.

The mean temperature was 38°·6, or 0°·6 above the normal, the days being 0°·6 and the nights 0°·7 above their respective averages. Except in the south of Scotland, and at Stronvar, Perth, Dundee and Aberdeen, temperature was above the average, but at few stations by more than 1°·0. A good deal of mild weather was experienced during the month, with highest temperature about 4th, 17th or 29th. An exceedingly cold spell occurred from 7th to 14th with minimum readings on the night of the 10th when the thermometer fell to 10°·0 or under on the Grampians and at Lednathie and Stobo. In the South low temperatures ruled also on 26th and 27th. The absolute maximum was 57°·6 at Corstorphine on 5th, and the minimum 6·0 at Braemar on morning of 11th.

The mean rainfall was 3·59 inches, or 14 per cent. below the normal. Rainfall was about the average at Glencarron and Nairn, slightly above in Midlothian and at Poltalloch, and decidedly above at Dollar, Stronvar, Fort Augustus, and in Banffshire, Orkney Shetland and Lewis. In nearly all other districts there was a deficiency, amounting to 50 per cent. in Upper Teviotdale, and fully 40 per cent. at Braemar, Arbroath, Loch Leven and Cally. The greater part of the precipitation occurred from 1st to 6th, from 11th to 17th, on 28th and 29th, and, at some Eastern stations, on 9th. Glencarron registered 2·38 inches on 29th, Leadhills 2·09 on 17th, and about half a dozen other stations falls of 1 inch or over on 4th, 12th or 29th. From 18th to 27th very little rain fell.

The first half of the month was very unsettled, with gales from S.W. on 4th and 5th, and from N. on 12th. On 29th and 30th there was a severe N.W. gale with heavy rainfall.

Between 7th and 12th a snowstorm was general over the country, whilst from 20th to 27th much fog occurred in more Southerly districts.

Thunder was reported at Paisley on morning of 30th.

Bright sunshine was a little above the average except in Orkney.

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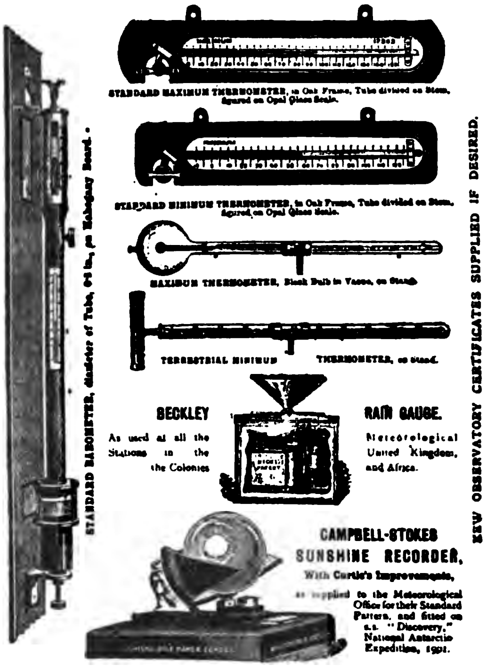
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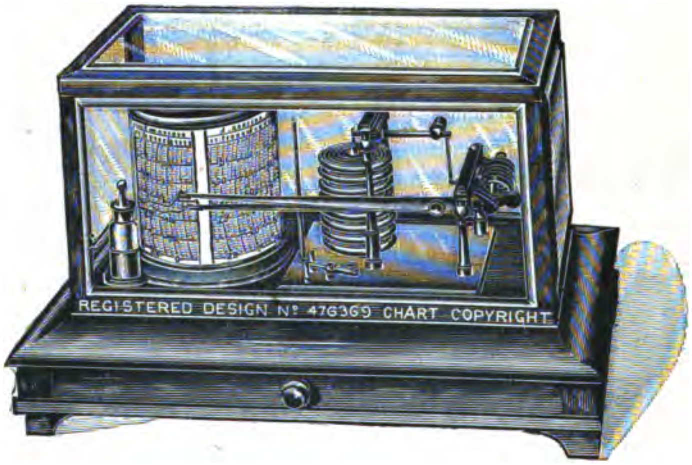
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THE Council authorised the insertion of the following Papers in the forthcoming Number of the Society's *Journal* :—

1. The Rainfall of Scotland in May 1906.
2. Note on the Meteorological Conditions in the Greenland Sea in May 1906.
3. Temperatures in Thermograph and Stevenson Screens.
4. Hebron and its Climate.
5. Reports from the Council to the General Meetings on 12th March and 12th July 1906.
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1.

THE RAINFALL OF SCOTLAND IN MAY 1906.

By Andrew Watt, M.A.

The rainfall of Scotland in May 1906 was of quite an exceptional character. Its amount and distribution were, as usual, briefly described in the Report to the Registrar-General for Scotland, but there were many interesting features in the month's record that could not be referred to there. That some more detailed remarks are desirable is indicated by the following quotations from the Report:—

"In eastern districts generally rainfall was much the heaviest for May since observations were organised.* There was a decided excess all over the country, but whilst this was moderate towards the north-west, to the south-east of a line drawn from about Elgin to Loch Ryan, all stations had much more than twice, and some more than thrice, their normal amounts. . . . The absence of heavy falls at nearly all west coast stations was remarkable."

It may be explained here that the Report to the Registrar is based chiefly on the statistics that are published along with it, and that the greater number of the Society's rainfall observers send in their records at the end of each year. The work of these additional observers is of great value, and all of them were good enough to transmit in advance a detailed account of the rainfall of May in their various districts. Such courtesy was much appreciated, and special thanks are due to the Water Trust engineers of the larger towns who supplied numerous returns. It is a matter of extreme regret that these records cannot be printed in the present *Journal*, but all have been examined and utilised; they will appear in the next issue.

THE AVERAGE RAINFALL OF MAY.

The description of the rainfall of any month at any place as "exceptional," clearly implies some more or less rigid estimate of the "average" rainfall of that place. It will therefore be instructive to submit (1) a map showing the average distribution of rainfall over Scotland in the month of May, and (2) a map showing the actual distribution in May 1906.

First, as to the average rainfall of May in Scotland. Dr. Buchan some years ago published in the *Journal*† a set of maps representing the average rainfall of Scotland for the entire year, and for each month of the year, and these were incorporated at a later date in similar maps for the British

---

* *I.e.* in 1856.

† "The Monthly and Annual Rainfall of Scotland," by Dr. A. Buchan, *Journal, Scottish Meteorological Society*, Third Series, vol. x.

Isles, published in Bartholomew's *Atlas of Meteorology*. The statistical basis of these maps was observations made during the 25-year period, 1866–1890, and the map for the month of May now given is Dr. Buchan's earlier map, modified by the new material accumulated during the last fifteen years. This involved the computation of a large number of averages for the 40-year period, 1866–1905.

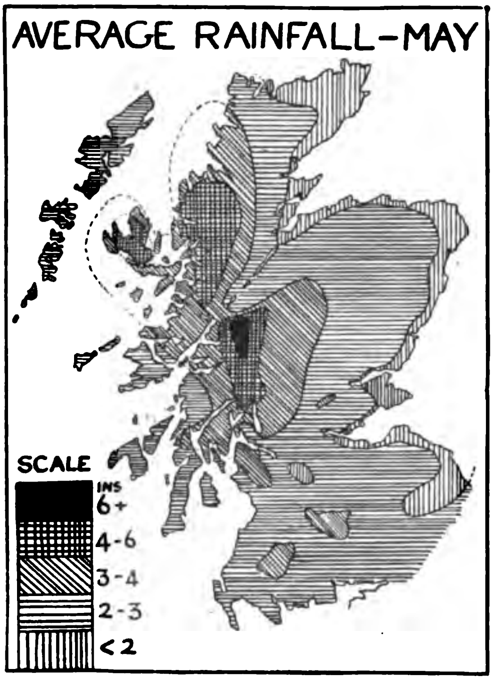

Fig. 1.

A glance at the map shows the salient features of the distribution of rainfall in Scotland in an average May. These are—(1) A thin fringe along the east coast and a small area in the valley of the Clyde where less than 2 inches of rain may be expected under normal conditions. (2) A large area, covering fully half the country, where the normal allowance is from 2 to 3 inches. (3) Considerable areas in the western half of the country, with from 3 to 4 inches, and small isolated areas with that amount in the Southern Uplands and on the Ochils. (4) Towards the north-west a more irregular distribution, with three considerable areas having from 4 to 6 inches, and a patch around Ben Nevis—possibly of less extent than suggested in the map—where more than 6 inches may be looked for. The map differs from the earlier one mainly in the position of the 3-inch contour line, and in the location and extent of the areas credited with from 4 to 6 inches.

The writer would be sorry were the impression conveyed that the map is based on an entirely satisfactory network of rainfall stations. That is far from being the case. There are, especially in the Highlands, most regrettable blanks, and there is not a large number of records that cover so long a period as forty years. But the same principles were adopted as in the construction of the earlier map—*i.e.* short-period records were utilised by comparing them with those of neighbouring stations that had the full forty years' average, and the "isohyets" were extended into unrepresented areas by a consideration of the orographical features of the country.

THE RAINFALL OF MAY 1906.

We now give a map—based on observations from more than 350 stations—of the distribution of rainfall in May 1906, which fully justifies the description of the month as an exceptional one. The normal fringe of low rainfall on the east coast has entirely disappeared; only a few scattered stations, such as Fort Augustus, and these all towards the north-west, did not receive as much as 3 inches; about nine-tenths of the mainland received at least 4 inches; whilst the large area of very heavy rainfall in the south and south-east is noteworthy, as are the similar smaller areas in Fifeshire, on the Ochils, and in the hilly region between the Dee and the Don. Districts with more than 6 inches in the normally wetter western half of the country are, of course, much less remarkable.

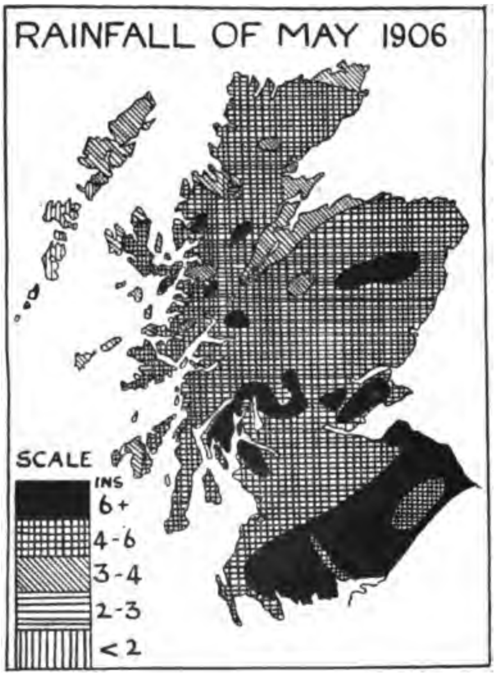

FIG. 2.

It must be pointed out that the three patches of very heavy rainfall to the north-west of the Caledonian Canal are supported in each case by the return from only a single station, whilst the charting of a 6-inch isohyet in the Ben Nevis region is not warranted by any actual record. It was assumed, however, that the normal ratio between the falls at the top and bottom of the mountain would not be greatly departed from.* Now Fort William registered 4·65 inches, so that the summit of Ben Nevis might reasonably be credited with an aggregate exceeding 6 inches. The charting of a small area of very heavy rainfall in Lochaber therefore seemed justified. In this connection a welcome series of returns from a string of six gauges, stretching from the foot of Glencoe across the Moor of Rannoch, and supplied by the courtesy of the Loch Leven Water Power Company, is of interest. At three of these gauges the total was above 5 inches, the largest amount being 5·60 inches.

Thus the rainfall map for May 1906 represents a striking departure from normal conditions. The actual rainfall on the east coast was heavier than that on the west, and there was a well-marked gradient from SE to NW, diametrically opposite in direction to the gradient of an average May.

SOME INDIVIDUAL RECORDS.

Leaving the Orkneys and Shetlands out of account, and also the numerous returns from the Scottish lighthouses, the only falls of less than 3 inches reported were all in the West Highlands. The three West Ross-shire gauges at Braemar House, Foich Lodge, and Loch Vraon, had totals of only about 2½ inches, and the rainfall, in a very restricted area embracing these places, appears to have been somewhat below the average. An isolated reading of 2·75 inches, from a gauge in Cluanie Forest (Glenshiel), was neglected in drawing the isohyets, whilst at Fort Augustus the aggregate was 2·66 inches.

---

* Means for 19-year period, 1885–1903, for May—Ben Nevis, 7·90 inches; Fort William, 3·53 inches; Ben Nevis = Fort William × 2·3.

Districts with from 3 to 4 inches were well defined, the tongue of moderate rainfall embracing the greater part of the Great Glen being clearly indicated. The three small inland patches, circumscribed by the 4-inch contour, were determined by the following records:—(1) At Lairg, 3·64 inches; (2) at Kingussie, 3·50 inches; and (3) at Glenfinnan, on Loch Shiel, where a total of 2·98 inches was taken as practically equivalent to 3 inches.

As already pointed out, about nine-tenths of the country had a rainfall of between 4 and 6 inches, and as examples of records within this considerable area we quote the following:—

	in.		in.		in.
Fort William	4·65	Rannoch Station	4·14	Dunrobin	4·50
Poltalloch	4·87	Perth	4·71	Grantown	5·75
Pinmore	5·48	Bridge of Earn	5·00	Arbroath	5·23
Kelso (Broomlands)	5·73	Bathgate (Boghead)	5·47	Leith	5·67

It should be said that a considerable number of the records between 4 and 6 inches approached the upper limit.

Coming now to very heavy falls, we find two cases where double figures were reached. A gauge recently erected, at a height of 1100 feet, in Glenuaig Forest in Ross-shire, and superintended by the Glencarron observer, registered 11·30 inches, whilst amongst the gauges controlled by the Glasgow Water Trust we find that situated at the head of Duchray Valley (1800 feet), on the eastern slopes of Ben Lomond, with as much as 13·10 inches. These two isolated records increase one's regret that records for the West of Scotland are so few and far between. The scantiness of material at present available is apt to throw into undue prominence such figures as those just quoted, and it is only an accident if any of the existing gauges is situated at the "wettest place in Scotland."

It may be noted that the Duchray Valley record was much the heaviest for May during the last 41 years. Thus we have:—

At Head of Duchray Valley, 1800 feet, May 1906 . . =13·10 inches.
Average for 40 years, 1866–1905 . . . . . . = 5·18 „
Next wettest May, 1900 . . . . =11·80 „

Of the remaining records, the highest were some in the hilly district of West Renfrewshire, from which Greenock draws its water supply (9·20 inches on Duchall Moor); whilst a considerable number of stations had amounts of more than 7 inches. But within the areas on the map, shaded according to the heaviest scale, the most remarkable district was undoubtedly East Lothian. In that county, where the spring rainfall is normally low, we find two records of more than 8 inches for the month—Whittinghame, 8·23 inches; Biel, 8·89 inches. Elsewhere in the south records exceeding 8 inches were not numerous. Only one occurred amongst the Talla gauges (8·37 inches at Gameshope Farm), whilst the considerable total of 8·50 inches at Drum Park, near Irongray, not far from Dumfries, suggests that the tongue of rather lower rainfall up the Nith Valley, indicated by the records from Drumfries and Drumlanrig, must have been exceedingly narrow. (Dumfries, 5·73 inches; Drumlanrig, 5·84 inches.)

The following are scattered examples of rainfalls of between 6 and 8 inches:—

	in.		in.		in.
Bendamph (Loch Torridon)	7·10	Tillypronie	6·73	Haddington	6·29
Glenquoich	6·10	Alford	6·55	Peebles	6·27
Kingairloch	7·00	Ardvorlich	7·12	Castlemilk (Lockerbie)	6·44
Tighnabruaich	7·22	Killearn	6·08	Langholm	7·71
Roseneath	7·00	Leadhills	7·90	Moffat	6·27
Kilmacolm	7·60	Beath	7·25	Dalbeattie	6·85
Loanhead (Logie-Coldstone	7·41	Dollar	6·39	Dalry	7·18
		North Berwick	7·30		

LONG PERIOD RECORDS.

The general statement made in the Report to the Registrar, and already quoted, that to "the south-east of a line drawn from about Elgin to Loch Ryan all stations had much more than twice, and some more than thrice, their normal amounts," was borne out by the records of nearly all stations where observations extended over a long series of years. Here and there, however, exceptions were found to such a generalisation, the excess at Stronvar, in Central Perthshire, amounting to only 35 per cent., whilst an excess of 95 per cent. at Gordon Castle did not quite bring that place within the line suggested in the Report.

It is not possible to quote comparative returns for all the stations for which long period averages are available, but the twenty-five stations enumerated in Table I. are representative and fairly well distributed. In each case the average rainfall is given for a stated number of years, the period in each case ending with 1905. In all but seven cases the average is for 40 years, and only in the case of Logie-Coldstone do the figures rest partly on interpolations. The scope of the Table is indicated by the headings of the various columns.

Examining the column of the Table which expresses the difference from the normal as a percentage, we see in every case a + sign, the values ranging from an excess of 31 per cent. at Glenquoich to an excess of 257 per cent. at Smeaton. Thus at Smeaton the total was more than three and a half times the normal, and the general rainfall of the south-east of Scotland may be put at about thrice its normal. Again the figures for Loanhead indicate an area where considerably more than thrice the average amount fell, whilst all the eastern stations enumerated had a large excess. On the west coast an area of comparatively moderate excess towards the north-west is indicated; indeed, as already stated, there was a small area in West Ross-shire having apparently a slight shortage.

In many cases all previous records for the month of May were completely outdistanced, and the following notes on three of the returns may be given:—

Dundee, Eastern Necropolis.—The record goes back to 1866; May 1906 had 5·03 inches, May 1899 had 4·05 inches, the next wettest May being that of 1885, with 3·69 inches.

Edinburgh, Charlotte Square.—The record goes back to 1850; May 1906 had 4·91 inches, May 1885 had 4·11 inches, and no other May as much as 4 inches. R. C. Mossman has collected several old records for the Edinburgh district* going back as far as 1770, and though these do not form an entirely homogeneous series, it seems probable that in Edinburgh, back to that remote date, no May had so heavy a rainfall as that of 1906, though the total of 4·91 inches was closely approached in 1787 (4·73 inches), and in 1847 (4·77 inches).

Smeaton.—The total of 6·29 inches was no less than 2 inches above any May rainfall at that place, in a record going back to 1834.

TABLE I.—Comparative Rainfalls.

	No. of Years.	Average.	Rainfall for May 1906.					
			Amount.	Difference from Average.	Difference per cent.	No. of Days.	Greatest Daily Fall.	Date.
West and South—								
		in.	in.	in.			in.	
Stornoway	35	2·45	3·82	+1·37	+ 56	25	0·57	24th
Glenquoich	30	5·43	6·10	+0·67	+ 12	26	0·75	29th
Laudale	35	3·78	4·96	+1·18	+ 31	22	0·90	4th
Poltalloch	40	2·59	4·87	+2·28	+ 88	20	0·65	28th
Glasgow (Observatory)	40	2·42	4·40	+1·98	+ 82	22	0·55	27th
*a*Kilmarnock (North Craig)	40	2·30	4·90	+2·60	+113	22	0·70	24th
Pinmore	40	2·72	5·48	+2·76	+102	24	1·15	5th
Cally	35	2·93	6·17	+3·24	+111	25	0·80	24th
Cargen	40	2·57	7·00	+4·43	+172	17(?)	1·36	19th
Drumlanrig	40	2·39	5·84	+3·45	+144	24	0·79	19th
Central—								
Grantown	35	2·30	5·75	+3·45	+150	25	1·69	16th
Stronvar	40	3·91	5·29	+1·38	+ 35	25	0·93	5th
Dunblane (Kippenross)	40	1·81	5·25	+3·44	+190	...	...	...
North and East—								
Wick	35	1·87	4·28	+2·41	+129	24	0·62	16th
Dunrobin	40	1·89	4·50	+2·61	+138	18	0·85	24th
Ardross Castle	40	2·45	5·78	+3·33	+136	26	1·04	17th
Gordon Castle	40	2·04	3·98	+1·94	+ 95	24	0·73	8th
Aberdeen (King's College)	40	2·09	4·87	+2·78	+133	24	0·99	16th
Logie-Coldstone (Loanhead)	40	2·15	7·41	+5·26	+245	26	2·09	16th
Edzell (The Burn)	40	2·16	5·50	+3·34	+155	27	0·92	24th
Dundee	40	1·87	5·03	+3·16	+169	21	0·79	24th
*b*Edinburgh (Charlotte Square)	40	1·94	4·91	+2·97	+153	24	0·66	19th
Smeaton	40	1·76	6·29	+4·53	+257	20	2·33	19th
Marchmont	35	2·37	7·14	+4·77	+201	22	1·72	16th
Wooplaw (Galashiels)	40	2·10	6·12	+4·02	+191	23	1·02	17th

a A Monthly Gauge: Daily Readings from Glenfield and Kennedy's Record.
b A Monthly Gauge: Daily Readings from Nautical College, Leith.

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* *Trans. Roy. Soc. of Edinburgh*, vol. xxxix. part 1. *The Meteorology of Edinburgh*, part 2. By R. C. Mossman, F.R.S.E.

THE DAILY RAINFALL.

We now give a Table of the daily amounts registered at fifteen representative stations:—

TABLE II.—Daily Rainfall at Fifteen Stations, for May 1906.

Day of Month.	Glencarron.	Glenquoich.	Fort William.	Glasgow Observatory.	Cargen.	Wick.	Aberdeen.	Loanhead (Logie-Coldstone).	Kingussie.	Clathick (Comrie).	Colinsburgh (Gilston).	Leith.	Smeaton.	Duns.	Leadhills.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	·08	·02	...	...	...	...	·11	·12	·09	...	...	...	...	·10	...
2	·06	...	·15	·26	·52	·15	·16	·10	·05	·50	·34	·13	...	·19	·31
3	·06	·45	·36	·05	·09	·02	...	·26	...	·07	·03	·01	...	·06	·32
4	·25	·45	·40	...	...	·18	·03	·05	·05	...	...	·01	...	...	·33
5	·22	·20	·10	·24	·68	·10	·17	·01	·05	·71	·43	·22	...	·15	1·51
6	·42	·42	·48	·04	·10	·03	...	...	...	·19	...	·01	·19	...	·13
7	·26	·21	·14	...	...	...	...	...	...	...	·60	...	...	...	...
8	·27	·41	·18	·23	·32	·35	·49	·66	·55	·45	...	·60	·34	·79	·28
9	·04	·06	...	·09	·18	·03	...	·06	...	...	·14	·10	·47	...	·42
10	...	·05	...	...	·36	·10	·07	·01	...	...	...	...	·13	·03	...
11	·08	·04	·11	·37	...	·13	·12	·38	·15	·31	·29	·46	·08	·27	·24
12	...	·12	...	...	...	...	...	...	...	·02	...	·02	·13	·02	...
13	...	...	·01	·01	...	·05	·39	·86	·19	·12	·42	·23	·04	·33	...
14	·25	...	·10	...	...	·06	·02	·01	...	...	...	·01	·13	...	...
15	·60	·50	·11	...	...	·30	·41	·73	·25	·05	·15	·11	·01	·11	·15
16	·28	·30	·01	·01	...	·62	·99	2·09	·74	·05	·06	·18	·53	1·80	·11
17	·67	·38	·04	·20	...	·40	·13	·57	·29	·11	·32	·34	·38	·20	·36
18	·15	·39	·39	·53	·26	·08	·20	·19	·09	·40	1·22	·57	·18	·32	·16
19	...	·16	·06	·04	1·36	...	·02	·03	·01	·04	·30	·66	2·33	·93	·63
20	...	...	...	...	...	...	...	·03	·02	...	...	...	...	·02	·28
21	·32	·01	...	...	...	·30	...	·02	·05	...	...	...	...	·01	·02
22	...	·05	...	·13	...	·03	·05	·09	·02	...	·03	...	...	...	.01
23	·02	...	·01	·32	·74	·03	·06	·09	...	·69	·62	·47	·02	·43	·04
24	·42	·13	·09	·27	·72	·35	·72	·63	·20	·55	·74	·39	·33	·25	·56
25	·27	·20	·01	·04	·26	·30	·01	...	·14	·02	·04	·10	·10	·15	·32
26	·23	·13	...	·24	·40	...	·17	·24	·18	·05	·23	·32	·05	·24	·14
27	...	·10	·12	·55	·39	...	·09	...	...	·28	·26	·42	·31	·52	·24
28	·58	·06	·82	·44	·24	·01	·04	·10	·20	·45	·19	·16	·50	·24	·33
29	·03	·75	·44	·14	...	·20	·04	·02	·01	...	·02	·02	·04	...	·37
30	·15	·06	·15	·12	·12	·08	·09	·04	·02	·07	...	·06	...	·13	·29
31	·24	·45	·37	·08	·26	·38	·29	·02	·15	·06	·08	·07	...	·03	·35
Total	5·95	6·10	4·65	4·40	7·00	4·28	4·87	7·41	3·50	5·19	6·51	5·67	6·29	7·32	7·90

Examining these records in detail, we may note as remarkable that falls exceeding 1 inch in twenty-four hours occur only at eastern stations and at Cargen in the south. Such heavy falls are entirely absent at the four western stations whose returns are given—Glencarron, Glenquoich, Fort William, and Glasgow, where the heaviest daily fall was 0·82 inch at Fort William on the 28th. A few heavy falls did, however, occur at a few places in the west, and of these the most notable was one of 1·40 inches, on the 18th, at Bendamph on Loch Torridon.

In the south of Scotland, the fall of 1·36 inches at Cargen, on 19th, is confirmed by a practically identical amount at Dumfries on that day, whilst the records from the two purely inland stations of Kingussie and Clathick call for no special remark.

In eastern districts the very heavy falls of more than 2 inches at Loanhead, in the Logie-Coldstone district of Aberdeenshire, on the 16th, and at Smeaton, near Prestonkirk, in East Lothian, on the 19th, at once catch the eye, and focus attention on the two most remarkable days of a remarkable month.

We note on the 16th, when Loanhead had 2·09 inches, a fall of 1·80 inches at Duns, in Berwickshire, and these places may be taken as almost central points in two restricted and rather sharply defined areas visited by heavy rains, viz.—(1) An area embracing the greater part of the counties of Aberdeen, Banff, and Elgin—[Grantown, 1·79 inches; Balmoral, 1·45 inches]: (2) An area apparently covering the greater part of Berwickshire—[1·72 inches at Marchmont]. Meanwhile practically all central and south-western districts were rainless, whilst northern and north-western districts were affected by only sporadic precipitation. This very noteworthy distribution of rain was accompanied by a steady air current from the north.

THE RAINFALL ON 19TH MAY 1906.

The distribution of rainfall on this day is charted on the accompanying map, where outside the shaded area the single or double lines indicate scattered falls. The chief features of the distribution were the very heavy falls in the south-east and south, whilst a great part of the country was absolutely rainless, and the rest apparently affected by only slight falls.

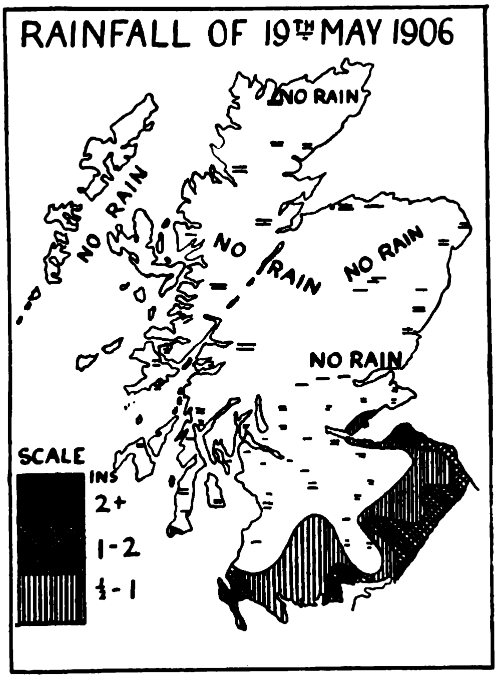

FIG. 3.

– indicates an isolated fall of less than 0·25 inch, and = a fall of more than 0·25 inch, but in most cases of less than 0·50 inch.

The area in East Lothian, credited with a fall of 2 inches, appears to have been a very restricted one, as Haddington, which lies only about four miles from Smeaton, had but half the rainfall registered at that place. [Smeaton, 2·33 inches; Haddington, 1·18 inches.] As on the 16th, the limit of heavy falls seems to have been sharply defined. Thus it did not embrace the hilly district to the south of Tweedsmuir, covered by the Talla gauges, where quite moderate falls were experienced. The rainstorm extended to the north of England and the north-east of Ireland, the southern portions of these countries receiving no rain on the day under discussion.

We quote the following heavy daily amounts from Reports of the Meteorological Office, and from Symons's *Meteorological Magazine*—At Wooler 2·45 inches; Sunderland, 2·41 inches; North Shields, 2·53 inches; Scarborough, 1·15 inches; Donaghadee, 1·01 inches. The rainstorm had spent itself by the morning of the 20th, and was succceeded over the greater part of Scotland by a brief dry period.

It has been proved, almost to a demonstration, by Dr. H. R. Mill,* that the greater part of the rain which usually accompanies a travelling depression may be looked for on the left-hand side of the path of the depression, and one turned to the maps of barometric distribution, given in the Daily Weather Report of 19th and 20th May, in the expectation of finding that some well-marked disturbance had crossed the central regions of Ireland and England on an easterly track. It should be said, however, that the steadiness of the wind direction in Scotland at the time—from a northerly or north-easterly point—indicated the movement of no such disturbance, and an examination of the barometric conditions led to rather bewildering results.

At 8 A.M. on the 19th the distribution of pressure over Western Europe was as indicated in the accompanying map, which is reproduced from the Daily Weather Report. As compared with the previous day, pressure had somewhat increased over the whole area covered by the observations, and the dominant features of the situation were the extensive high-pressure area in the far north, the "low" over Northern Germany, and the shallow irregularity off Brittany. It was anticipated that the northern anticyclone would extend southwards, as indeed happened, and there seemed nothing to indicate the probability of such heavy rains as occurred in the east and south of Scotland, the north of England, and the north-east of Ireland.

The pressure map of the following morning did not differ greatly from its predecessor. The German depression had deepened somewhat and moved a little towards the north; pressure had diminished a little over Scandinavia, but had risen slightly over France and our Islands; and there was no indication of the former minor irregularity over the Bay of Biscay. Thus, during the twenty-four hours ending 8 A.M. on 20th May, pressure changes were comparatively slight, and certainly no well-defined "low" crossed our Islands.

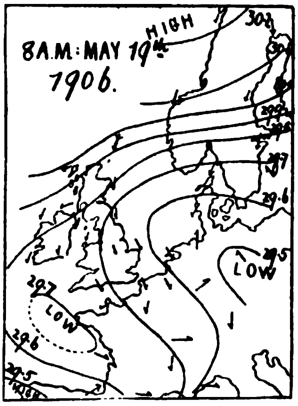

FIG. 4.

The following considerations suggest themselves:—

(1) We cannot regard the rainstorm as associated with the slight movement of the main "low" over Northern Germany.

(2) The rain arrived at the affected area with a surface wind from the north-east. At the time of this rainstorm, and indeed for a great part of the month of May, the barometric distribution was favourable to a fairly

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* Symons's *Meteorological Magazine*, vol. xxxix. p. 161.

steady cyclonic circulation, covering the greater part of Europe. In these circumstances it is of importance to consider what were the temperature conditions in Eastern Europe at the time. Now, in point of fact, temperature was unusually high in Russia, and had been so since the beginning of the month.* Thus at St. Petersburg there was one day during the first ten, and two days during the second ten, warmer than any in the corresponding periods in the 150 years covered by the observations in that city. Again at St. Petersburg the mean temperature of the ten days 1st May to 10th was 63°·5, or as much as 20°·4 above the normal, whilst the shade maximum on the 18th was 86°·0. Meanwhile over Scotland and the greater part of England temperature was decidedly below the normal, and this was also the case over the Scandinavian peninsula.

Under temperature conditions over Northern Europe, such as those briefly indicated, it seems possible that an air current from Russia, moving from the south-east, was of sufficient initial warmth to evaporate moisture enough from the snow-fields of Sweden and Norway, to account largely for the heavy rainfalls experienced in Scotland with north-easterly winds.

(3) Whilst the considerations in (2) are important, it should be pointed out that some of our heaviest rains are associated with the passage of small "secondary" disturbances. But of such an occurrence there is no trace at the date under discussion.

(4). It must further be noted that recent researches † have shown it to be at least probable that rain, which reaches our Islands with a surface wind from the east, is often really due to a southerly air current. Sometimes a current of easterly air "forms practically a bank of cold air over which the warm southerly current gradually rises as it would over a range of mountains," with the necessary result that the ascending current expands and cools, the condensed moisture falling as rain through the surface easterly current. This appears to be the case with certain types of travelling storms, but, as we have seen, the rainstorm of 19th May was not accompanied by any great changes in the distribution of pressure over Western Europe, and it does not seem possible to show whether conditions like the foregoing played any part in this particular rainstorm.

The distribution of rain over Scotland on a single day has been touched on in some detail, but the weather conditions of the entire four days, from 16th to 19th, would form an interesting subject for study. Between these dates quite wintry conditions were experienced, snow falling in many districts, and for the entire period the weather was almost continuously stormy in the east and north. It is noteworthy that the accompanying heavy precipitation was not associated with thunderstorms, none being reported between the 16th and 19th at any of the ordinary stations of the Society, or at any of the lighthouses round the coasts. Thunderstorms later in the month, at many stations, were accompanied by comparatively moderate downfalls.

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* *Meteorologische Zeitschrift*, June 1906. May 1906 in Northern Europe, by A. Woeikof.

† Pp. 20 and 21, *The Life History of Surface Air Currents*, by W. N. Shaw, Sc.D., F.R.S., and R. G. K. Lempfert, M.A., London, 1906.

Under average conditions May is an extremely sunny month in Scotland, and indeed in North-western Europe generally, but in 1906 the month was characterised by unusually cloudy skies. At Aberdeen and Glasgow, where Campbell-Stokes' Sunshine Recorders have been in operation since 1881, so small an allowance of sunshine has never been reported.

In conclusion, it remains to point out that June proved a dry and sunny month in nearly all districts. In April also the general rainfall of Scotland was below the average, though there was an excess towards the north and north-west. But whilst the first half of April was dry and sunless, during the latter half of that month the weather was very changeable, with frequent rain.

2.

NOTE ON THE METEOROLOGICAL CONDITIONS IN THE GREENLAND SEA IN MAY 1906.

By R. C. Mossman, F.R.S.E.

In connection with the foregoing paper, Mr. Watt has asked me to append a few notes on the meteorological conditions experienced in the Greenland Sea during the month of May, which will be long remembered for its unusually boisterous and inclement character by those engaged in whaling and sealing in this region. The observations to be summarised were made on the steam-whaler *Scotia* by myself, and the instruments and method of exposure were practically the same as used on this vessel during the recent Scottish Antarctic Expedition.* For the loan of the instruments, I am indebted to Dr. W. N. Shaw, F.R.S., Director of the Meteorological Office.

The observations were almost wholly made in the region from 78° 8′ to 79° 23′ N latitude, between the meridian and 7° 26′ E longitude, which were the limits of our cruise after reaching the "fishing" grounds on 3rd May. It may be stated that the ice was first met with on 25th April, in latitude 72° 0′ N, longitude 2° 55′ E, and that during the whole month of May we were in polar pack ice, with unbroken floes to the west and north, which effectually barred all progress in these directions.

The characteristic features of the weather of May were a very high barometric pressure accompanied by strong winds and gales, chiefly from the NW and N, a very low mean temperature, and densely overcast skies. Observations were made from four to six times daily, but for the purpose of this preliminary note, the 8 A.M. readings have been alone utilised.

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* *Scottish Geographical Magazine*, vol. xix. p. 180.

The mean barometric pressure, corrected to 32° sea-level and standard gravity, was 30·134 inches; being highest, 30·499 inches, on the 20th, and lowest, 29·592 inches, on the 30th. From the 9th to the 26th pressure was uniformly high and steady.

The mean air temperature was 19°·9; being highest, 32°·0, on the 31st, and lowest, 7°·0, on the 8th. The lowest temperatures were experienced with the strongest winds, which greatly increased the physiological effects of the cold.

The prevailing winds were NW, NNW, and N, and these blew with gale force from the 5th to 9th, 11th, 16th to 18th, 21st to 25th, and on the 29th, making 15 stormy days in the month.

The mean amount of cloud (overcast sky or fog = 100) was 90, and no clear sunny weather was experienced.

Snow fell on 15 days, and a silver thaw was noted on the 20th.

While it is not possible, without further elaboration, to show the direct connection between the area of very high pressure in the far north, and the low-pressure systems in the south, there can be little doubt that the Arctic anticyclone was the dominating factor at work in the production of the abnormal rainfall in Scotland and the high temperatures in Russia referred to by Mr. Watt. That an unusual distribution of pressure extended over a very wide area is indicated, not only by the data from Europe and the Greenland Sea, but also from the observations made by the whalers in Davis Straits, in which region persistent south-east winds prevailed all spring and summer. Owing to these winds, the ice in Melville Bay remained unbroken throughout, and for the first time since 1878 the whalers were unable to reach the "north water," the "fishing" being a total failure.

In a further communication I hope to be able to give a fuller résumé of the observations taken during the past summer in the Greenland Sea, co-ordinating them with data from Davis Straits, Iceland, and Spitzbergen, and thus join up the somewhat scanty data from the Arctic with the fuller information from more temperate regions.

3.

TEMPERATURES IN THERMOGRAPH AND STEVENSON SCREENS.

By R. T. OMOND.

THE thermometers from which records of temperature at the Fort William Observatory were obtained were exposed in two louvred screens: the one, an ordinary Stevenson screen, stood over grass a few yards to the south of the Observatory; it contained maximum, minimum, and dry and wet bulb thermometers, the bulbs of the three last named being four feet above ground, and that of the maximum a few inches higher. The other screen, containing the photographic thermographs, and the thermometers by which their results were controlled, was placed against the wall of the Observatory. The Observatory faced north-west, and the northern corner had been bevelled off so as to give a wall surface some ten feet wide facing due north. Against this a single-louvred screen, about four feet cube, was placed, the lower edges of the screen being four and a half feet, and the bulbs of the thermometers about five feet, above ground.

On the east and west sides of the screen a second set of single louvres were placed, standing a foot clear of the sides of the screen. The photographic trace obtained from the instruments in this larger screen was measured hourly, and the thermometers in the Stevenson were read seven times a day, at 9, 10, 12, 14, 16, 21, and 22 hours. [That is, 9 and 10 A.M., 12 noon, 2, 4, 9, and 10 P.M.] The highest and lowest portions of the photographic trace were recorded as maximum and minimum values on each day, while the ordinary self-registering maximum and minimum thermometers in the Stevenson screen were read at 21 hours.

In preparing the records of temperature from the two screens for publication, it became evident that exact agreement was not to be looked for, and the object of this paper is to draw attention to, and if possible, to explain, the differences between the records.

In Table I. is given the average monthly difference of the dry bulb and maximum and minimum thermometers, computed to hundredths of a degree Fahrenheit, in the two screens for the fourteen years ending 31st July 1904,—a minus sign indicating that the temperature in the Stevenson is lower, and the absence of sign, that it is higher than in the thermograph screen.

The hourly values on the photographic trace were measured at two minutes before each hour, while the eye readings in the Stevenson screen were taken between that time and the exact hour; but the mean hourly values of the photographic trace show that this slight difference in time would

TABLE I.—Fort William Observatory.

Mean Difference of Temperature in Stevenson Screen from that in Thermograph Screen.

	9	10	12	14	16	21	22	Max.	Min.
	°	°	°	°	°	°	°	°	°
January .	·03	·14	·35	·20	·04	·02	·07	·54	−1·20
February .	·01	·31	·57	·41	·25	−·03	·06	·77	− ·94
March .	·18	·39	·66	·53	·21	−·01	−·04	1·10	− ·99
April . .	·14	·41	·77	·59	−·03	−·24	−·26	1·00	−1·09
May . .	·05	·39	·85	·52	−·08	−·38	−·39	·64	−1·04
June . .	·07	·33	·75	·44	−·23	−·51	−·51	·36	− ·88
July . .	−·01	·25	·54	·35	−·21	−·48	−·47	·31	− ·68
August .	·01	·31	·56	·51	−·08	−·42	−·40	·61	− ·58
September .	·11	·45	·74	·56	−·01	−·33	−·29	·99	− ·84
October .	·02	·47	·76	·37	·04	−·21	−·23	1·02	−1·07
November .	−·01	·19	·44	·26	·04	−·09	−·05	·68	−1·06
December .	−·03	·12	·21	·16	·03	−·01	·04	·51	−1·10
YEAR .	·05	·31	·60	·41	·00	−·22	−·21	·71	− ·96

not cause a change of more than 0°·05 on the monthly averages even at the hours when the temperature was rising or falling most rapidly, and, near the time of maximum temperature, would be quite inappreciable. The figures in Table I. may therefore be regarded as representing very closely the average differences between the temperatures inside the two screens at the hours indicated. It is unnecessary to give the average temperatures themselves, as these have already been published.*

From Table I. it will be seen that the maximum is higher, and the minimum lower, in the Stevenson than in the thermograph screen in every month, but the amount of the difference varies with the season of the year. In December and January the maximum is only about half a degree, in spring and autumn it is fully a degree, and in June and July only about a third of a degree higher. The variation in these differences is clearly an effect of solar radiation. The Stevenson is exposed to the sun during the warmest part of the day at all seasons, but in the winter months the thermograph screen is in the shadow of the Observatory from 10 a.m. to 3 p.m. In spring and autumn these conditions are substantially the same, and the increased strength of solar radiation makes the differences greater; but in summer, when the sun is higher, it shines on both screens at the time of maximum temperature, and hence the difference between them is less than in winter or spring. The difference of the minimum values shows less annual range, but is, on the whole, greatest at the coldest time of the year, and least in July and August. This difference is therefore a function of terrestial radiation, which lowers the temperature in the Stevenson screen more than it does that in the larger thermograph screen, because one side of the latter rests against a wall, which prevents radiation from that side.

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* *Transactions Royal Society of Edinburgh*, vol. xliii. p. 490.

The thermometers in the Stevenson screen have thus a larger daily range of temperature than those in the thermograph screen, the average maximum being higher, and the minimum lower. The chief cause of this is doubtless the fact that the thermograph screen stands against a wall which heats and cools slowly, and thereby diminishes the range of temperature in the screen, but the seasonal fluctuations in these differences indicate the varying effects on the two screens of direct solar and terrestial radiation. The fact that the maximum and minimum values in the thermograph screen are for the twenty-four hours ending at midnight, while in the Stevenson screen they are for the twenty-four hours ending at 21 h. (9 P.M.), does not seem to afford any explanation of these differences in the average values,—though on individual days it often causes discrepancies, for the readings of the dry bulb thermometers, which are made almost simultaneously in the two screens, show similar differences.

At 9 h. the differences are small, less than two-tenths of a degree in every month, but by 10 h. the monthly averages show that the Stevenson screen values are the higher throughout the year, and the annual range of these differences is similar to that between the maximum readings in the two screens. The differences at 12 noon show a similar variation from month to month, and are in each month greater than at any other hour, thus clearly indicating solar radiation as the cause of these differences. By 14 h. the differences are diminishing again, being only slightly greater than at 10 h. At 16 h. the Stevenson screen readings are the higher during the six winter months, October to March, but are lower than those in the thermograph screen from April to September. It would seem that while in winter the effect of the higher midday temperatures in the Stevenson screen is felt till after 16 h., yet in summer, when the sun is higher, the thermograph screen is heated more than the Stevenson in the afternoon, by the sunshine striking obliquely on the wall against which the screen stands. At 21 h. and 22 h. the lower temperature in the Stevenson screen during summer is again evident, the difference being fully half a degree at both these hours in June. In winter the differences at 21 h. are very small, and at 22 h. there is a curious slight excess of temperature from December to February, due possibly to the freer circulation of air around the Stevenson screen.

The differences discussed above are between average values in the two screens, the individual readings vary more widely. At 10 h., 12 h., and 14 h., the Stevenson screen frequently has a temperature two to three degrees higher than that in the thermograph screen, and has occasionally been as much as five degrees higher. These large differences would have raised the average differences for these hours, were it not that they are counter-balanced by many instances of the Stevenson screen being the lower of the two. This occurs when a reading is taken shortly after a shower of rain, the louvres of both screens are then covered with drops of water which are rapidly evaporating and thus cooling the air passing through the louvres; the smaller size and greater relative surface of the Stevenson screen causes a greater lowering of temperature inside it than in the thermograph screen, and consequently under these conditions the thermometer in the Stevenson screen often reads fully one degree lower than that in the thermograph screen even at noon. The comparison of the temperatures recorded in these two screens brings out very clearly how small differences in the exposure of screens influence appreciably average values, especially that of the maximum temperature, and also that on individual days large discrepancies may occur. It is doubtful which screen gives the closest approximation to the true shade temperature of the air; the thermograph screen is sluggish, and the Stevenson is more affected by radiation.

The wet bulb temperatures in the two screens show differences similar in character to, but less in amount than, the differences of the dry bulb.

At the Meteorological Observatories at Valencia and Aberdeen, temperature observations have been taken for many years by self-recording thermographs, and also in Stevenson screens. Average values for the thirty years 1871 to 1900 inclusive have been published by the Meteorological Council,* and in Table II. are given the differences of the average maximum and minimum temperatures, to tenths of a degree Fahr., in the two screens at these Observatories and also at Fort William. As before, a minus sign indicates that the Stevenson screen is the lower, and the absence of sign that it is the higher. The three right-hand columns show the discrepancies that would occur between the Stevenson and thermograph screen records at each place if the mean temperature be computed as $\frac{\text{Max.} + \text{Min.}}{2}$.

TABLE II.—MEAN DIFFERENCE OF TEMPERATURE IN STEVENSON FROM THAT IN THERMOGRAPH SCREEN AT VALENCIA, ABERDEEN, AND FORT WILLIAM.

	VALENCIA.		ABERDEEN.		FORT WILLIAM.		$\frac{\text{Max.} + \text{Min.}}{2}$		
	Max.	Min.	Max.	Min.	Max.	Min.	Val^{a}.	Ab^{n}.	F.W.
	°	°	°	°	°	°	°	°	°
January	1·2	−·6	·3	−·8	·5	−1·2	·3	− ·3	−·4
February	1·1	−·5	·7	−·9	·8	− ·9	·3	− ·1	−·1
March	1·2	−·7	1·3	−·4	1·1	−1·0	·3	·5	·1
April	·6	−·5	1·8	·0	1·0	−1·1	·1	·9	−·1
May	·3	−·6	2·1	·1	·6	−1·0	−·2	1·1	−·2
June	−·1	−·4	2·2	·1	·4	− ·9	−·3	1·2	−·3
July	·1	−·5	1·7	·0	·3	− ·7	−·2	·9	−·2
August	·5	−·4	1·7	−·2	·6	− ·6	·1	·8	·0
September	·8	−·5	1·5	·1	1·0	− ·8	·2	·8	·1
October	1·2	−·4	1·2	−·4	1·0	−1·1	·4	·4	−·1
November	1·2	−·4	·4	−·8	·7	−1·1	·4	−·2	−·2
December	1·3	−·8	·2	−·7	·5	−1·1	·3	−·3	−·3
YEAR	·8	−·5	1·3	−·3	·7	−1·0	·1	·5	−·1

The values at Valencia and Aberdeen are for the thirty years ending 31st December 1900, and at Fort William for the fourteen years ending 31st July 1904.

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* *Hourly Readings obtained from the Self-Recording Instruments, etc., for* 1900, New Series, vol. i.; and Supplement to *Daily Weather Report*, 1901.

At Valencia, the thermograph screen was placed twelve feet above ground on the north wall of the Observatory building, with projecting walls and screens at a little distance on each side of it to east and west. The Stevenson screen stood four feet above grass a little to the northward of the building. The position of both screens was changed in 1892, but the differences shown in Table II. would be determined mainly by the original exposure of the two screens.

At Aberdeen, the thermograph screen is placed forty-two feet above ground on the northern side of a square tower, which extends to a considerable height above it. The Stevenson screen stands four feet above grass a little way from the base of the tower on its eastern side.

The position of the screens at Fort William has been already described.

A glance at Table II. shows that the differences between the temperatures in the two screens do not change from month to month in the same manner at the three Observatories. At Valencia, the maximum temperature is over a degree higher in the Stevenson screen during the six winter months, but the difference rapidly falls off in summer, and in June the thermograph screen is a tenth of a degree above the Stevenson. At Aberdeen, on the contrary, the differences for the maximum are small in winter, but increase to over two degrees in May and June. At Fort William, the difference is greatest in spring and autumn, as described above (see page 16). The differences in the minimum temperatures more nearly agree at the three places, being largest in winter and least in summer at all the stations, though Valencia has the lowest variation, $-0^\circ{\cdot}8$ to $-0^\circ{\cdot}4$, and Aberdeen the greatest, $-0^\circ{\cdot}9$ to $+0^\circ{\cdot}1$. The variation in all these differences from month to month at Fort William has been shown to depend on the relative exposure of the two screens to radiation, and there can be little doubt that is also the cause of the variations at Valencia and Aberdeen. It would appear that the sun's rays reached the thermograph screen at Valencia during the warmest part of the day at mid-summer only, but shone on the Stevenson screen at all seasons. At Aberdeen, on the contrary, the thermograph screen seems to be little affected by solar radiation at any season, and the excess in the Stevenson screen to be proportioned to the strength of that radiation, which reaches it at all seasons. The differences in the minimum temperatures show little variation from month to month at Valencia; but at Aberdeen the Stevenson is lower in winter by nearly one degree, while in summer it equals and even slightly exceeds the thermograph screen. Evidently the great height of the latter screen diminishes the effect of winter radiation frosts on it, and thereby gives it a higher average minimum temperature at that season.

The last three columns of Table II. show the amounts by which the average monthly temperatures at the three stations would differ according as they were computed from the maximum and minimum readings in the thermograph and in the Stevenson screens respectively. At Valencia the use of the values from the Stevenson screen would give a slightly higher temperature in winter, and lower in summer, about $0^\circ{\cdot}3$ each way; but at Aberdeen the winter temperatures would be about $0^\circ{\cdot}3$ lower, and the summer temperatures over a degree higher. At Fort William there would be the curious double oscillation in the differences already referred to. The great height (42 feet) of the Aberdeen thermograph screen above the ground on which the Stevenson screen stands is evidently the cause of the larger seasonal range in the differences at that station as compared with either Valencia or Fort William, and it is evident that temperature observations, to be strictly comparable *inter se*, must be made in screens of similar pattern, at a standard height above ground, and equably exposed to solar radiation.

4.

HEBRON AND ITS CLIMATE.

Address to the General Meeting on 12*th July* 1906.

By Dr. ALEXANDER PATERSON, Medical Missionary, Hebron.

THE climate of Palestine is substantially the same now as it was in the earliest times of which we have any record. The incidental references in Holy Scripture indicate that then, as now, it was a country where the winter rains were heavy, often torrential and accompanied by violent storms of wind, while the summer was practically rainless. Further, it has always been a pastoral and agricultural country, and the main features of the landscape are the result of these climatic conditions and its long continued use for pastoral purposes. The story of the Patriarchs is one of great and wealthy flockmasters and of their migrations within and without the country in search of pasture.

Two or three hundred years later, after the Exodus, their descendants irrupted as a nation into "a land flowing with milk and honey." This phrase is really descriptive of a pastoral, agricultural, and horticultural country. Honey stands for far more than the products of bees—molasses and other sweet products of the vine being staples of food. As to milk, this was and still is the product almost entirely of sheep and goats, and these animals have, I imagine, had not a little to do with producing one feature of this land very prominent to-day, and probably always so, viz. its comparative treelessness. We are familiar with the fact that large timber for the Solomonic temple and royal buildings at Jerusalem had to be imported at immense labour and cost from Lebanon; and where stone and lime are plentiful a style of domestic building, with immensely thick walls and vaulted stone roofs, is immemorial,—building, *i.e.*, in which timber is not used except for doors and windows.

An interesting experiment of Darwin's will illustrate this effect of sheep and goats; and remember that goats are by far the more destructive, climbing trees and stripping them as far as they can reach. Darwin enclosed a small area of one of the downs in the south of England with a fence, and left it so for a good many years. All he did was to prevent sheep browsing in it, and the result was a thick plantation of trees, which as seedlings in the ground had been, as they were being all over the downs, cropped close as soon as their tips appeared, and so were prevented from growing up.

Palestine from end to end is a pastoral country; and all through its history the allusions to shepherds and flocks and herds are constant, showing this destructive agency to have been continuously at work.

Famine was a frequent calamity in Palestine, and affords an index to its climatic conditions. Seven distinct occurrences are described in the historical books—three in the times of the Patriarchs, one in the time of the Judges, and three in the times of the Kings.*

Several facts emerge here, and certain conclusions can be come to from these records.

(1) Of all these famines only one is described as of general incidence, viz. that of Egyptian fame; all the others are local to Palestine.

(2) Four of the six rival the Egyptian in their prolongation, the periods being 3, 3½, 7, and 10 years, suggesting conditions likely to be widespread, and yet it is distinctly stated in the case of the two most prolonged that relief was found no farther away than in Moab, on the the east of Jordan in one instance, and in the Philistine plain in the other.

(3) These famines occurred in different social and political epochs. The three in Patriarchal times seem to have been precipitated by the sudden ingress of immense flocks and herds throwing an excessive strain on the resources of the lands they settled on, as in Abraham's case already mentioned. In the times of the Kings the conditions of life were totally changed; extravagant and oppressive courts, endless wars, foreign and civil, and the supply of the temple sacrifices overtaxed the resources of the land.

(4) The two last of the series of seven occurred within about ten years of each other, showing how frequent drought and dearth might be.

Besides these, several instances of famine are recorded elsewhere, but without dates, and many times in the prophetical books, and once by our Lord and once by St. Paul, allusions to famine are made which prove that it was a familiar and frequent visitation.

Having experienced during thirteen years at Hebron several visitations of pests like locusts, and blights upon crops and vines and figs, and also several seasons of comparative shortage of rain and scarcity of the earth's fruits, and realised the feeling of apprehension among the people lest yet another summer with scanty rainfall should make matters really serious, I have no doubt that there is, and always has been, a precarious variability of climate in Palestine, and that famine, and dearth short of famine, have been far more frequent visitants than the records of Scripture show.

THE TOPOGRAPHY OF PALESTINE.

Palestine—which is only a part of a much greater system extending north and south of it—is cast in an extraordinary if not unique mould. Within this segment, south of the Lebanons, which is, roughly, 160 miles long by

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* (1) Gen. xii. 9, 10; (2) Gen. xxvi. 1; (3) Gen. xli. 54–57, xlii. 1; (4) Ruth i. 1–46; (5) 2 Sam. xxi. 1; (6) 1 Kings xvii. 1, xviii. 2, 5, Luke iv. 25; (7) 2 Kings viii. 1, 2.

40 miles broad in the north, and 80 miles in the south, are four divisions of mountain, plain, and valley.

(1) The MARITIME PLAIN is nearly at sea-level, and lies between the western range and the Mediterranean. The climate is hot and damp, but fairly healthy.

(2) The WESTERN RANGÉ.—This has in Galilee and Samaria a more irregular surface than in Judæa, and, apart from the isolated hills upon it, is distinctly lower. The climate in the mountains is fairly temperate, and is salubrious.

(3) The GHOR, or depressed valley of the Jordan between the two ranges, is 600 feet to 1300 feet below sea-level. The climate is tropical, enervating, and notoriously unhealthy.

(4) The EASTERN RANGE is, on the whole, loftier, especially in its southern part, than the western range, and eastwards slopes to a vast fertile plateau and the desert beyond. The other three slopes are all steep, those of the Jordan valley being deepest and steepest.

The maritime plain and the western side of the higher ground, being open in their whole length to the Mediterranean, are swept by the westerly gales. The ridge on which Hebron and Jerusalem stand is also exposed to the easterly winds, which, however, blow more or less over both the Jordan valley and the maritime plain.

The sunken valley, though comparatively sheltered from these main winds, especially in the region of the Dead Sea, which lies nearly 4500 feet below both ranges, is visited by short and violent gusts blowing with extraordinary violence down the mountain gorges, and which are familiar in the gospel story as raising those storms on the sea of Galilee which made and still make navigation dangerous.

South of Jerusalem and Bethlehem the central ridge rises and broadens out into an obvious plateau; one becomes almost suddenly aware of emerging into an ampler region, lifted up and remote from everywhere. This plateau is diversified by a rough-and-tumble conglomeration of rounded limestone hills, their tops of bare washed-out rock, their sides sloping to valleys and little plains running out and in of one another in all directions, in part arable and in part pasture land. It is a treeless, houseless, almost desolate panorama, with here and there little villages on hilltops, far apart, and occasional glimpses of the purple mountains of Moab on the east and the Mediterranean on the west; until at last the traveller ceases to climb, and passes down a long valley of vineyards into Hebron.

HEBRON.

What strikes one after this journey is the great comparative fertility of the Hebron district. The vineyards extend for two or three miles on all sides of the town, with tracts of arable and pasture land interspersed, and thickets of stunted evergreen oak (Ilex) and other small trees, which harbour ground and feathered game, and foxes, jackals, hyænas, wolves, and pigs—the last three in small numbers. What is not so obvious is the great number of cisterns, springs, and wells among its hills and valleys—the wells being shafts sunk to underground streams. Some of these sources are so near the tops of the hills that one wonders where the water is stored to keep them running. The yield of a good many fails more or less as summer advances, and is a good index to the previous rainfall; an unusually wet winter will make its influence felt over more than its own year, while two poor rainy seasons in succession will leave most of the springs and wells nearly dry soon after midsummer. The water famine thus threatened is to some extent obviated by storage in public and private cisterns, but the people are in some years in great straits, as their supply must then be carried considerable distances in jars and skins. The so-called "pools," great cisterns open to the sky, as well as public covered cisterns of great capacity, are found in Jerusalem, in Hebron, and half-way between; and private cisterns attached to and below dwelling-houses are a feature of both these towns; Rosen being in error in denying these to Hebron, where, however, they are fewer than in Jerusalem, whose natural water-supply is *nil.*

The most interesting springs in Hebron are—(1) Mamre, near which Abraham encamped; (2) Eshcol, of grape-cluster fame in the time of the Exodus; (3) Sirah (now called Sarah), whence Joab recalled Abner when he slew him in the gate of Hebron in blood-feud for the death of his brother Asahel. Of the two pools, the larger dates from the time of the Egyptian Caliphs, and the other is reputed to date from at least the days of King David.

THE CLIMATE OF HEBRON.—For statistics of the climate I would refer to a most interesting and instructive paper by Mr. Watt, entitled, "The Climate of Hebron."* But an observer may, through intimacy with the varying moods and phases of his local weather, be able to give a general impression of the climate in a manner which statistics hardly bring out.

In respect to the wind, the annual frequency of each direction in days is—

N.	NE.	E.	SE.	S.	SW.	W.	NW.
48	18	29	27	9	8	82	144

[See vol. xii. page 141.]

We see at once that the NW is the predominant wind, but with it may be grouped all with a westerly component, viz. SW, W, and NW, giving a total of 234 days—these are the winds which bring rain in winter, and they also blow steadily during the long dry summer season.

NORTH WIND.—Biblical allusions to this wind are definite and interesting, representing it as three phases,—wet, dry, and transitional. For example, Prov. xxv. 23 (R.V.): "The north wind bringeth forth rain; so doth a backbiting tongue an angry countenance"; and Job xxxvii. 21-22, which describes the clearing of a storm, with fine weather following: "And now men see not the bright light which is in the clouds; but the wind passeth and cleanseth them. Fair weather cometh out of the north." Of later testimony is

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* *Journal*, vol. xii. p. 133.

Robinson's: "The north wind occasionally brings fair weather, though less commonly than that from the east." (*Phys. Geography, Holy Land*, p. 277.) Observations at our station show that in winter the north wind is sometimes wet and sometimes dry, and in summer always dry; it is always cold or cool, seeing it blows from the mountains of Asia Minor and Lebanon, which are snowclad.

By "transitional" is meant the phase in which the wind is veering from west to east. Thus, in winter, by the time a westerly gale, after blowing for several days in succession, has worked round to the north on its way to the east, the storm of rain it brought has blown itself out, though there may be, at this stage, some final showers. And in summer, when for days together the day wind is west and the night wind east, the north is only a transient phase of the veering of the wind in the evening as the south is in the morning.

SOUTH WIND.—In the transitional phase, the south wind is very prevalent, much more so than appears from the records, because it is badly timed for actual observation, viz. early morning. Though often a hot wind, it has never in the thirteen years of my residence at Hebron been there the scourge that it is described by Robinson.

"More frequent in Palestine is the sirocco from the south or south-west, continuing for one day and often for more. We encountered it, in 1838, three times in its full strength. (1) About 11 A.M. the wind suddenly changed from north-east to south, and came upon us with violence and intense heat, until it blew a perfect tempest. The atmosphere was filled with fine dust, forming a bluish haze; the sun was scarcely visible, . . . and the glow of the wind came upon our faces as from a burning oven. Often we could not see ten rods around us; and our eyes, ears, nostrils, mouths, and clothes were filled with the sand. The thermometer at noon was 88°, at 2 P.M. 76°. (2) On 23rd May (near Hebron) the wind had been SW all the morning; but about 11 o'clock it increased, and became at last a violent tempest, bringing the dust and sand from the desert, and filling the air so as to obscure the sun. The whole atmosphere became of a deep dun or yellowish hue. The thermometer at 10 A.M. and 2 P.M. was 86°; at sunset it cleared away with a wind from the NW. (3) On 30th May (south of the Dead Sea) the mercury at sunrise was at 69° F., with a cool and pleasant wind from the SW.; but by 10 o'clock the wind had become strong, the mercury had risen to 96°, and the heat of the sun was intolerable. At noon this wind was a fierce sirocco, which brought up a dense haze, and the thermometer had risen to 102°. At 2 P.M. it had sunk to 96°, and at sunset was at 76°, with a cool NW wind, which soon cleared the atmosphere." (*Phys. Geography, Holy Land*, pp. 279-80.)

This daily rotation of the winds is probably referred to in Eccles. i. 6: "The wind goeth toward the south, and turneth about unto the north; it whirleth about continually, and the wind returneth again according to his circuits." Summer and winter, however, the wind steadies for the most part somewhere in the west; the next stablest being the east, though far behind. With the Mediterranean on the west, and the desert on the east, of the two long flanks of Palestine, it is perhaps only natural that the winds from these "airts" should be the most prevalent and stable, and that the north and south winds should be more transient.

West Wind.—Summer or winter, then, the westerly winds (*i.e.* SW, W, NW, tailing off into N) blow during more than two-thirds of the time, and always bring moisture. In winter this moisture yields five months of rain; in summer it is often not in evidence, during cloudless days, owing to the great heat; though on many summer days as well as nights great quantities of high and hard cumulus and cumulo-stratus fill the sky; but at night, and in the early morning, before sunrise, dense fog-banks or drifting scud, that blot out the landscape and drench everything, are common.

East Wind.—This is undoubtedly the next in frequency and importance to the west. It is with us the night wind of summer, and is not always a hot wind. About sunset, or later, a westerly breeze which has blown during the day veers by NW and N to east, and during the early forenoon it continues its way round the compass to west again. This will go on sometimes for several days in succession. But the true east wind, or sirocco (Italian for Arabic, *sharkiejyeh,* or easterly), which blows sometimes for two or three days on end, is a different matter, and is akin to that described above from Robinson, as blowing from the south; it has been rarely experienced in Hebron since I went there.

The references to it in Scripture are numerous. Job i. 19: "And behold there came a great wind from the wilderness and smote the four corners of the house, and it fell upon the young men, and they are dead" (probably the collapse of a tent, and subsequent death by suffocation). Jer. iv. 11–12: "A hot wind from the bare heights in the wilderness, . . . not to fan, nor to cleanse" (the reference is to Jerusalem). Ps. xlviii. 7: "With the east wind Thou breakest the ships of Tarshish." Hos. xiii. 15: "An east wind shall come, the breath of the Lord coming up from the wilderness, and his spring shall become dry, and his fountain shall be dried up." Jonah iv. 8: "And it came to pass, when the sun arose, that God prepared a sultry east wind, and the sun beat upon the head of Jonah, that he fainted."

Far short of such extreme exhibitions of itself, the east wind can inflict intense discomfort, and work much damage. Only once have I witnessed an exhibition at all approaching a typical sirocco, and then the atmosphere was like a London fog.

Rarely is the east wind a carrier of rain, but twice in thirteen years I remember wet weather which beat up from this side, so that we had to close our easterly windows, which may with impunity remain open during the heaviest westerly rains. It has been suggested that a westerly wind bearing clouds was met by an easterly cold draught, which cut in below it, and, bringing down the rain, drove it in this unwonted direction.

Rainy Season.—The usual progress of the rainy season is in a more or less regular series of alternations of wet and dry; paroxysms, so to speak, of storms, intermitting with spells of the finest weather of the whole year; the wet bursts being usually shorter than the dry intervals.

Take the following as an average example of our winter weather:—After ten days or a fortnight of sunny weather, sometimes indeed cloudless, if the east wind has prevailed, suspicious-looking clouds appear on the western horizon, banking up from small beginnings. "Behold, there ariseth a little cloud out of the sea, like a man's hand" (1 Kings xviii. 44). Gradually the wind rises, and the sky becomes completely overcast. This may take a day or two, or only a few hours. Usually, as long as this rising wind continues strong, the clouds hold up, but a lull in its violence, for which we know to look, is quickly followed by torrents of rain.

Then for three days and nights, often more, up to ten days on rare occasions, the heavens are obscured, and a gale, unremitting and violent, drives all life under ground and indoors. At last the wind moderates, the cloud-pall having meanwhile begun to harden, lift, and break up, and at ever-shortening intervals sun or stars begin to show as the clouds disperse. Next day breaks fine, or if the wind has veered to east, cloudless. Then follows an interlude—usually of a week or a fortnight—of the most wonderful weather, with brilliant and warm sunshine, balmy and invigorating air, and high and hard cloud-masses, brilliant and snow-white, or lovely mackerel, in the bluest of skies, which, ultramarine at night, makes the moonlight a never-to-be-forgotten spectacle of loveliness.

Now all life revives, and as the weeks pass the grass seems to grow visibly, and the lean cattle to fatten before one's eyes, while all manner of activities which were in abeyance during the storm—ploughing, sowing, building, every sort of outdoor labour—are again and at once in full swing; and traffic, which had ceased because of risk to life and limb of man and beast, is again on the move. Wherever the water can run off, the roads and tracks dry in an incredibly short time.

A word as to the effects of the climate on health. While the Ghor or depressed valley of the Jordan is notorious for its baneful climate, that of the southern plateau is so salubrious and temperate that it has, except in winter and among children, little serious effect on a temperate and hardy race. Bronchitis and Bright's disease and rheumatism are common, due to exposure, but consumption is rare; specific disease, ophthalmic diseases, and the exanthemata are the chief scourges.

In closing, I would refer to a beautiful and possibly rare spectacle which I have twice witnessed in our district, and nowhere else. Riding with a companion from Nabal's Carmel, in the south, towards Hebron, on a beautiful evening, we were admiring a fine display of fan-like rays from the setting sun, variegated with the lovely tints of the dying day, when looking across to the east we were astonished to see a similar display over the purple mountains of Moab. The great arms of light and colour reappeared on the eastern sky, while overhead nothing was visible. Evidently the vapour rising from the warm valley of the Dead Sea had formed a screen of haze or thin cloud on which these rays were reproduced in all their beauty.

5.

REPORT from the COUNCIL to the GENERAL MEETING of the SOCIETY, on March 12, 1906.

Since the last meeting of the Society, a new Station has been opened at Fort William, under the charge of Mr. W. T. Kilgour. At the end of last year, observations were discontinued at Braemar and Stobo Castle. The Station at Braemar was established by the late Prince Consort in 1856, and has now ceased, owing to the retirement of Mr. James Aitken, banker, who has for fifty years given unremittingly his valuable services as Observer. The instruments have now been removed to Balmoral, where The King has established a Station, under the superintendence of Mr. John Michie, M.V.O.

The following Stations have been inspected since last July by Dr. Buchan:—Rothesay, Poltalloch, Stornoway, Lairg, Dunrobin, Wick, Strathpeffer, Nairn, Aberdeen, Braemar, Dundee, Wolfelee, Cally, Leith, Clathick, Glasgow, and Paisley; and by Mr. Watt—Belvidere Hospital (Glasgow), Dumfries, and Haddington.

The Council desire to express their sense of the great loss the Society has suffered through the death, on 7th December last, of Miss Jessie Hill Buchan. The value of her services to the Society can scarcely be over-estimated. She entered the Society's Office in 1868, and for nearly twenty years was Dr. Buchan's sole assistant there, not only taking a large share in the routine work of the Office, but giving most valuable aid in those researches and discussions which have so often done credit to this Society. It is not too much to say that not Dr. Buchan alone, but everyone who has worked in connection with this Society, has been indebted to Miss Buchan for valuable assistance, both in planning and carrying out their work. She also had charge of the finances of the Society, and all the subscriptions received for the Ben Nevis Observatory passed through her hands, which was, for both bodies, a guarantee that the funds would be carefully and faithfully administered.

It is at this Meeting that the annual election of Office-Bearers takes place. The three Members of Council who retire by rotation are—Sir Archibald Geikie, Professor James Geikie, and Dr. John Aitken. The Council recommend the re-election of these gentlemen.

The Registrar-General for Scotland has been regularly supplied with the Monthly and Quarterly Reports from this Office, and also, direct from the Observers in the eight large towns of Scotland, with the Daily Observations of Temperature and Rainfall required for his Weekly Reports.

The Meteorological Office in London have received direct from the Observers at Lairg, Glencarron, Fort Augustus, Clathick, Marchmont, and Cally, Daily Observations of Temperature and Rainfall, with in some cases Sunshine, for their Weekly Weather Reports. Similar data were sent up to the end of last year from Braemar, and are now being sent from Balmoral, Fort William, and Dumfries.

Meteorological statistics have been sent as usual to several Medical Officers of Health in various parts of Scotland for their annual reports.

The next number of the *Journal* is in the Press, and will be issued shortly.

In October last the Council were asked by Dr. Shaw, the Director of the London Meteorological Office, to appoint two Delegates to confer with himself and Professor Schuster as representing the Meteorological Office, and with two Delegates to be appointed by the Royal Meteorological Society of England, as to the publication of meteorological records, and the continuance of the payments made by the Meteorological Office to the two Societies for data supplied by them. Dr. Buchan and Mr. Omond were appointed to represent this Society, and one meeting of the Delegates has already been held.

The Council are glad to state that the London Meteorological Office have granted, out of the Parliamentary Grant for Meteorology, a sum of £150 per annum for three years to Dr. Buchan, as a contribution towards the working out of the Ben Nevis observations. Dr. Buchan's time, during the last year, has been mainly devoted to the discussion of these observations.

Another volume, being vol. xliii. of the *Transactions* of the Royal Society of Edinburgh, has been issued, containing the observations at the Ben Nevis and Fort William Observatories from 1893 to 1897 inclusive, and also papers by Dr. Buchan and Dr. A. J. Herbertson.

REPORT from the COUNCIL to the GENERAL MEETING of the SOCIETY, held on July 12, 1906.

There has been no change in the Society's Stations since the Meeting in March.

The Registrar-General for Scotland has been regularly supplied with the Monthly and Quarterly Reports from the Society's Office; and also, direct from the Observers in the eight large towns of Scotland, with the Daily Observations of Temperature and Rainfall required for his Weekly Reports.

The Meteorological Office in London have been supplied with copies of the Bi-daily Readings at three of the Society's Stations, and with Monthly and Annual Summaries of the Observations at fourteen Stations.

The Meteorological Office has also received, direct from the Society's Observers at Lairg, Glencarron, Fort Augustus, Fort William, Balmoral, Clathick, Marchmont, Dumfries, and Cally, Daily Observations of Temperature and Rainfall, with in some cases Sunshine, for their Weekly Weather Reports.

Dr. Buchan's time has been chiefly devoted to the continuance of the discussion of the Ben Nevis observations. A fund has been formed to provide clerical assistance for this work, and two sums of £25 each have already been received for this year. The following letter was recently received by Dr. Buchan from Professor Cleveland Abbe, of the United States Weather Bureau:—

"I have just received your last great publication, the *Ben Nevis Observations*, part iii., and it abundantly carries out the promise of former years. The complete publication of such valuable data is the only way to make them accessible to the many scholars who will plod through your tables and compare your mountain work with that of other high Stations. I hope that our Mount Washington work will sometime be published as fully as this. You know the earlier Pike's Peak work was published in full by an arrangement with the Harvard College Observatory, but I believe there are some data still unpublished. Mountain observatories still hold their own, notwithstanding the success of the sounding balloon. Some enthusiastic friends are now labouring for an observatory on the summit of Mount Rose, near Reno, Nevada; and we shall have many such before the end of the century."

The returns sent in from the Society's Stations show that the rainfall of last May was the heaviest ever recorded for that month in many districts of Scotland. Mr. Watt will communicate a paper on this subject to the Meeting to-day.

ABSTRACT OF THE ACCOUNTS OF THE SCOTTISH METEOROLOGICAL SOCIETY, FROM 30TH JUNE 1905 TO 30TH JUNE 1906.

CHARGE.

I. **Balance** from last Account		£346 15 11
II. **Income** during Year—		
Annual Subscriptions .	£275 3 9	
Life Members' Subscriptions . . .	115 10 0	
Donations . . .	126 5 11	
Legacies . . .	...	
Journal—Sales and Advertisements . .	8 8 3	
Sum received from Meteorological Council for Weather Reports .	102 0 0	
Grant from Government	100 0 0	727 7 11
Note—		
Income for Year . .	£727 7 11	
Expenditure . . .	578 17 7½	
	£148 10 3½	
Surplus for Year, which being added to Balance on last Account .	346 15 11	
Balance at 30th June 1906	£495 6 2½	
		£1074 3 10

DISCHARGE.

I. **Expenditure** during Year—		
Salaries		£315 12 6
Travelling Expenses, visiting Stations		...
Cost of *Journals*, paid during year .		114 2 2
General Printing, Stationery, Bookbinding, Postages, etc. . . .		81 8 1½
Advertising		5 3 0
Office Rent, Gas, Taxes, and Insurance		60 8 2
Furnishings and Instruments . .		1 14 9
Interest paid, *less* received . . .		0 8 11
		£578 17 7½
II. **Balance** at close of this Account—		
Loan to Ben Nevis Observatory Fund . .	£300 0 0	
Sum in Deposit Receipt with Union Bank of Scotland . . .	25 0 0	
Balance in Account Current with do. .	264 16 4	
Balance due by Treasurer	6 4 4½	
	£596 0 8½	
Deduct, Balance due to Dr. Buchan, included in Salaries, but unpaid	100 14 6	495 6 2½
		£1074 3 10

Edinburgh, 22*nd November* 1906.—Examined and found correct.

P. C. ROBERTSON, C.A., *Auditor*.

ABSTRACT OF THE ACCOUNTS OF THE BEN NEVIS OBSERVATORY FUND, FROM 30TH JUNE 1905 TO 30TH JUNE 1906.

CHARGE.

I. Price of Low-Level Observatory sold .		£750 0 0
II. Proceeds of Apparatus, etc., sold—		
1. Furniture—		
Mrs. Cameron Lucy, of Callart . .	£18 3 0	
Mr. Angus Rankin (still due, see below)	27 7 4	
	£45 10 4	
2. Books—Various .	1 6 6	
3. Thermometer . .	0 15 0	
4. Sunshine Recorder .	3 0 0	50 11 10
III. Proceeds of Provisions sold		4 18 0
		£805 9 10
IV. **Balance** at close of this Account—		
Loan from Scottish Meteorological Society	£300 0 0	
Balance due to Union Bank of Scotland, Edinburgh . .	197 9 3	
	£497 9 3	
Less due by Mr. A. Rankin for Furniture . .	27 7 4	470 1 11
		£1275 11 9

DISCHARGE.

I. **Balance** from last Account . . .		£1133 9 9
II. **Expenditure**—		
Expenses of Sale of Low-Level Observatory, including Advertising . . .	£53 13 2	
Feu-duty, *less* proportion recovered . . .	8 17 4	
Rates and Taxes . .	2 4 7	
Electric Light . .	10 18 6	
Coal (two years) . .	13 6 3	
Repairs . . .	2 3 2	
Travelling Expenses and Outlays in connection with dismantling Observatories . .	17 11 11	
Stationery at Observatories and incidental outlays . . .	7 2 7	
Audit	2 12 6	
Interest paid to Bank .	23 12 0	142 2 0
		£1275 11 9

Edinburgh, 22*nd November* 1906.—Examined and found correct.

P. C. ROBERTSON, C.A., *Auditor*.

6. (1) TABLE OF ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1905.

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Dunrossness.	Shetland,	5·81	8·00	3·20	2·38	1·72	1·09	3·22	2·51	2·18	4·01	3·87	2·67	35·66
Lochend, Northmavine	,,	5·96	4·77	2·61	3·11	1·82	1·08	2·88	3·06	2·30	6·21	5·54	4·35	43·69
Balta Sound, Halligarth,	,,	4·84	5·12	2·58	3·21	1·93	1·35	2·85	3·49	1·90	4·58	5·09	3·39	40·28
Balfour Castle,	Orkney,	2·90	3·33	2·70	3·40	1·05	0·40	2·15	3·15	2·61	4·30	3·80	1·95	31·74
Wick,	Caithness,	2·30	3·67	3·23	3·37	1·13	1·14	2·25	3·03	3·12	4·66	3·09	1·31	32·30
Watten,	,,	2·33	3·27	3·12	2·54	1·13	0·72	2·11	2·78	2·38	4·67	4·01	1·37	30·43
Bettyhill,	,,	4·05	3·89	5·15	3·21	0·98	0·76	1·20	3·95	3·11	6·35	4·06	2·64	39·35
Castletown,	,,	3·60	4·54	3·77	3·39	1·88	0·79	2·75	4·24	3·11	5·77	5·00	2·04	40·88
Invershin,	Sutherland,	4·55	4·53	4·38	2·40	1·32	0·74	1·61	3·30	2·06	4·22	5·36	1·95	36·42
Altnaharra,	,,	6·06	6·22	4·59	3·54	1·32	2·44	1·74	3·22	3·05	4·35	5·45	8·48	45·46
Stornoway,	Ross,	5·80	6·12	5·36	2·95	1·64	1·45	2·70	4·76	4·90	3·82	4·79	6·27	50·56
Strathpeffer,	,,	3·76	3·81	3·24	1·62	1·39	1·85	1·50	2·69	1·86	2·69	3·26	1·86	29·53
Swordale House,	,,	3·20	4·80	3·60	2·10	2·60	0·50	1·70	3·40	2·40	3·50	4·20	1·90	33·90
Fearn,	,,	1·61	2·26	3·94	1·82	1·82	0·61	1·65	2·99	1·82	2·97	3·23	1·04	25·76
Ardross Castle,	,,	3·97	4·27	4·09	3·21	2·14	0·94	2·11	4·32	2·23	4·87	6·80	2·26	41·21
Strathconan,	,,	6·85	4·70	5·33	4·36	2·73	0·95	2·39	3·74	3·99	4·88	5·69	3·35	48·96
Applecross,	,,	4·22	6·04	6·43	3·00	2·78	1·15	3·38	4·50	7·68	7·87	6·74	3·20	56·99
Loch Drome,	,,	7·99	3·07	4·52	8·82	3·14	5·60	9·67	5·77	8·40	14·98	5·36	6·66	83·98
Loch Bhraon,	,,	11·70	10·03	4·70	5·10	3·24	2·10	3·45	3·57	7·80	6·33	6·53	3·95	68·50
Braemore House,	,,	11·50	9·00	4·30	5·50	2·40	1·60	4·02	3·42	7·50	6·42	6·40	3·83	65·89
Bendamph,	,,	8·51	11·66	10·01	2·92	4·06	2·24	5·07	6·01	8·90	9·76	8·07	9·36	86·57
Glenuaig,	,,	...	...	...	...	...	...	...	...	...	11·57	9·50	13·90	...
Lochmaddy,	Inverness,	3·02	5·21	6·25	1·77	1·25	1·36	3·09	3·67	5·26	4·09	4·03	3·74	42·74
Kinlochmoidart,	,,	6·21	7·73	10·22	3·17	4·17	1·59	6·71	4·92	7·48	9·06	7·62	5·33	74·21
Glenquoich,	,,	15·38	13·78	10·35	4·14	6·03	3·80	6·33	9·13	11·89	9·65	9·12	14·81	114·41
Invergarry,	,,	7·55	7·23	6·88	3·12	2·73	2·21	2·46	2·98	4·27	3·84	6·22	6·29	55·78
Glenfinnan,	,,	12·45	11·03	10·51	4·87	5·14	2·21	6·93	10·11	11·00	11·21	8·32	10·34	104·12
Aviemore,	,,	1·84	2·69	3·43	2·19	2·01	0·95	1·35	3·37	1·92	4·18	3·33	1·61	28·87
Drumnadrochit,	,,	3·12	3·94	3·09	1·21	1·99	0·68	2·45	2·58	1·84	3·68	4·41	2·51	31·50
Killin, Loch Ness,	,,	4·60	4·60	6·40	2·40	3·40	2·00	3·60	4·20	3·30	3·60	4·60	5·00	47·70
Garthbeg, ,,	,,	6·77	7·20	6·56	1·56	3·21	1·32	2·24	3·70	2·68	3·32	6·90	7·54	53·00
Aberchalder, ,,	,,	2·68	2·65	4·71	1·42	2·31	0·84	1·94	3·52	1·97	3·45	4·87	2·52	32·88
Foyers, ,,	,,	3·73	4·97	3·96	1·45	2·09	1·31	2·17	2·79	2·41	3·15	4·31	3·12	35·46
Mucomir,	,,	6·20	5·62	7·00	2·46	3·73	2·70	4·68	5·83	5·58	3·94	4·34	6·76	58·84
Delnies,	Nairn,	1·44	1·66	3·11	1·49	1·57	0·69	1·93	2·20	1·36	3·01	3·26	1·03	22·75
Achareidh,	,,	1·05	1·78	3·14	1·85	1·84	0·78	2·29	2·32	1·47	2·70	3·59	0·88	23·69
Budgate,	,,	2·05	2·45	4·32	2·09	2·08	1·31	1·92	3·05	1·82	4·18	3·71	1·24	30·22
Grantown,	Elgin,	1·82	2·42	3·81	2·90	1·63	0·56	2·25	3·45	1·70	4·33	3·76	1·07	29·70
Archiestown,	,,	1·58	2·74	3·05	2·50	1·38	0·54	1·78	3·70	2·20	5·64	5·40	0·68	31·19
Duffus House,	,,	1·46	2·21	3·38	2·11	1·68	0·58	1·93	2·80	2·02	4·09	3·74	0·83	26·83
Kinloss,	,,	1·21	2·17	3·71	1·97	1·66	0·44	1·90	2·64	2·16	3·67	3·79	0·72	26·04
Cullen House,	Banff,	2·50	1·15	4·50	2·10	2·30	0·95	1·00	2·90	3·30	5·40	5·15	0·95	32·20
Earl Hill,	,,	1·57	1·89	3·36	2·92	1·29	1·38	2·48	2·57	2·14	2·84	6·14	0·83	29·41
Aberlour,	,,	1·79	2·25	3·05	2·50	1·03	0·43	1·64	4·30	2·07	5·71	6·50	0·60	31·87
Dufftown,	,,	1·88	3·36	3·82	2·81	1·80	0·51	2·20	4·07	2·48	7·28	6·83	0·97	38·04
Keith,	,,	1·57	2·42	4·13	2·43	1·30	0·47	1·74	3·76	3·07	7·59	8·11	0·83	37·42
Coldstone Sc'lhouse,	Aberdeen,	1·07	1·89	3·37	2·98	1·42	1·57	4·47	4·40	1·90	3·86	6·68	0·65	34·26
Alford,	,,	0·92	1·65	3·44	2·86	1·69	0·51	3·91	4·98	2·35	4·78	8·03	0·75	35·87
Aberdeen, M.C.,	,,	0·62	1·77	3·41	2·94	1·18	1·20	2·27	3·15	2·24	3·47	5·37	0·83	28·45
New Deer,	,,	1·36	1·86	3·89	3·13	1·33	1·06	3·49	3·77	2·41	6·84	7·07	0·84	37·05
Cranford,	,,	0·73	2·04	3·56	3·43	1·22	0·76	1·87	3·64	2·42	3·75	6·83	0·94	31·19
Johnston Lodge,	Kincardine,	0·56	1·71	4·95	2·74	1·39	0·61	2·67	4·49	2·62	2·48	8·76	1·43	34·41
The Burn,	,,	0·73	1·77	4·75	3·65	1·63	0·85	1·62	3·97	1·61	2·90	7·29	1·48	32·25
Arbroath W'rw'ks,	Forfar,	0·44	0·80	2·83	1·48	1·20	0·49	1·43	3·02	0·88	2·04	4·54	0·92	20·07
Brechin,	,,	0·65	1·46	4·41	2·74	1·74	0·60	1·56	3·22	1·35	2·33	5·94	1·60	27·60
Buddon Ness,	,,	0·28	0·84	2·29	1·65	1·57	1·00	1·93	3·42	1·09	1·71	4·62	1·11	21·51
Broughty Ferry,	,,	0·23	0·84	2·98	2·06	1·49	0·73	1·47	3·14	1·01	1·69	3·84	1·16	20·64
DundeeWaterw'ks—														
Hillhead,	,,	0·44	1·00	3·73	2·54	1·57	0·99	1·50	4·79	1·74	2·25	5·45	1·38	27·38
Crombie,	,,	0·54	1·11	4·37	2·33	1·80	0·93	1·68	5·13	2·18	2·20	6·94	1·60	30·81
Craigton,	,,	0·34	0·78	3·13	2·46	1·41	1·01	1·53	4·87	1·85	2·46	5·22	1·31	26·37
Balnakeilly,	,,	1·30	1·20	4·50	2·10	2·30	1·30	1·50	3·80	1·30	1·50	6·60	1·80	29·20
Creich Hill,	,,	1·00	1·80	3·30	2·20	2·70	2·10	1·50	3·50	1·40	2·00	5·50	2·20	29·20
Lintrathen,	,,	0·90	1·10	4·40	2·50	2·20	1·60	1·80	4·40	1·30	2·20	6·30	1·90	30·60
Glendamff,	,,	2·00	2·20	5·40	3·50	2·60	1·80	2·60	4·30	2·00	4·20	5·30	2·40	38·30
Barney,	,,	1·50	2·00	6·00	3·50	2·80	2·40	3·50	4·30	2·70	2·80	7·40	3·40	42·30
Longdrum,	,,	1·80	1·80	5·90	3·20	2·60	2·40	2·40	4·30	2·70	3·20	8·30	3·70	42·30
Glendye,	,,	1·30	2·20	4·50	3·50	3·20	2·20	2·60	3·20	2·90	2·90	6·50	2·20	37·20
Rannoch Station,	Perth,	7·15	4·50	6·99	2·58	2·53	2·18	2·88	4·25	4·83	4·26	5·77	4·31	52·23
Blair-Atholl,	,,	1·37	2·29	4·76	2·17	1·55	2·71	1·48	3·43	2·03	2·44	3·80	2·30	30·33
Coupar-Angus,	,,	0·44	0·74	3·07	1·31	1·83	0·91	1·48	3·33	1·36	1·86	5·07	1·54	22·94
Blaircreich,	,,	9·14	8·60	14·24	7·02	4·08	4·02	5·38	8·05	7·03	6·83	5·64	6·45	86·48
Ardvorlich,	,,	3·67	3·69	9·53	2·69	1·91	2·72	2·26	8·21	3·77	4·63	10·81	6·39	60·28

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1905—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Glasgow Wat'w'ks—	Perth,	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Glengyle,	,,	8·10	6·50	12·70	4·10	3·90	2·10	5·80	6·60	5·00	4·80	9·00	8·50	77·10
Hill above Tunnel at Loch Katrine,	,,	7·10	6·30	10·50	4·00	2·90	2·10	3·90	7·30	4·40	6·00	9·50	7·90	71·90
Ledard,	,,	2·25	2·35	5·00	3·55	2·90	2·10	4·30	8·85	4·95	4·90	8·35	4·20	53·70
Loch Dhu,	,,	6·70	5·50	8·70	4·40	2·90	1·80	3·60	7·50	4·70	5·80	11·00	7·80	70·40
Duchray Head,	,,	6·60	7·20	10·20	7·20	7·90	4·10	7·80	11·80	7·10	8·40	16·20	17·00	111·50
Corriehichon,	,,	7·90	6·70	11·00	4·90	3·50	3·10	5·00	8·60	5·90	5·60	9·50	10·00	81·70
Corrie-Arklet,	,,	8·10	7·90	10·80	5·30	3·30	2·90	4·70	8·70	5·60	6·70	9·70	8·90	82·60
Bet. Glen Finlas and Ben Ledi,	,,	1·00	0·90	4·00	2·80	2·00	2·00	3·50	7·90	2·80	3·90	6·20	2·10	39·10
Brig o' Turk,	,,	3·50	3·65	7·70	3·40	2·65	1·55	4·05	7·70	4·10	4·60	8·65	6·25	57·80
Loch Drunkie,	,,	3·60	4·50	7·70	3·70	2·70	1·50	4·00	7·80	3·40	4·50	7·10	6·00	56·50
Loch Vennachar,	,,	2·60	2·40	6·70	3·10	2·60	1·80	3·30	6·90	3·10	4·10	6·30	3·80	46·70
Aberfoyle,	,,	3·50	3·40	7·60	3·00	2·30	1·60	3·90	7·35	3·05	4·60	7·05	5·15	52·50
Leny,	,,	3·70	4·20	7·20	3·60	3·00	1·70	3·30	7·20	3·80	5·00	8·00	6·10	56·80
Doune,	,,	1·53	1·95	4·03	2·15	2·06	0·61	2·52	4·42	1·82	2·80	3·84	3·64	31·37
,, Gartincaber,	,,	1·73	2·16	4·34	2·25	2·33	0·69	2·50	5·36	2·08	3·40	4·17	4·07	35·08
,, High Braes,	,,	2·71	3·11	5·95	3·08	3·38	1·45	3·30	6·86	2·97	4·33	6·68	5·01	48·83
Net'r Cambushinnie,	,,	1·77	2·70	5·61	2·70	3·34	2·00	3·04	5·75	2·14	3·62	5·42	4·27	42·36
St. Fillans,	,,	2·60	2·85	6·05	1·99	1·41	2·70	1·76	6·67	3·40	3·26	8·70	5·57	46·96
Lynns,	,,	1·91	2·90	4·51	2·30	2·45	1·61	1·18	4·32	2·40	2·64	5·15	3·78	35·15
Kippenross,	,,	1·35	1·60	4·10	2·20	1·70	1·00	2·50	4·00	1·30	...	...	...	...
Kippendavie,	,,	2·60	3·29	6·24	3·20	2·96	2·40	2·88	5·53	1·94	3·25	7·29	5·90	47·48
Glensherup,	,,	2·00	3·80	4·30	1·74	3·00	1·00	2·00	4·72	2·00	4·00	7·60	6·25	42·41
Bridge of Earn,	,,	0·50	0·70	3·80	1·50	1·30	0·70	1·10	3·20	1·70	2·30	5·40	2·20	24 40
Abernethy, Ayton,	,,	0·76	1·00	3·53	1·56	1·68	0·52	1·40	2·98	1·74	2·50	5·90	2·69	26·26
Blairingone,	Fife,	1·38	1·64	4·56	2·73	2·64	0·72	3·36	3·33	1·30	2·62	5·55	3·24	33·07
Tayport Low Light.	,,	0·29	0·76	2·95	2·16	1·48	0·90	1·42	3·39	1·28	1·70	4·12	1 20	21·65
St. Andrews, W.W.	,,	0·46	0·90	2·69	1·81	1·33	0·64	1·48	2·75	1·50	1·71	4·60	1·41	21·28
Balcarres,	,,	0·53	1·23	1·93	2·20	1·72	0 60	2·36	3·18	1·89	2·64	5·13	1·52	24·93
Gilston, Colinsburgh	,,	—[	4·28	]—	1·98	1·72	0·59	2·04	3·68	2·10	1·90	6·06	1·70	26·05
Lothrie Reservoir,	,,	0·35	0·63	3·35	1·71	1·93	0·18	1·80	5·49	1·93	1·83	6·13	2·52	27·85
Craigluscar,	,,	1·40	1·20	3·10	2·10	2·30	0·50	0·22	0·24	1·95	2·20	5·30	2·80	23·31
Keavil,	,,	1·06	0·91	3·15	1·35	1·52	0·50	2·73	2·33	1·43	1·83	4·03	2·21	23·05
Outh,	,,	0·45	0·90	4·00	2·31	2·45	0·17	2·92	3·85	1·62	2·02	6·23	2·57	29·49
Clatto Reservoir,	,,	0·47	0·66	3·24	1·64	1·94	0·69	1·42	3·93	1·63	1·72	5·73	1·77	24·84
Luscar, Gauge I.,	,,	1·13	1·02	3·47	1·27	2·65	0·18	2·88	2·43	1·62	2·19	4·96	2·95	26·75
,, ,, II.,	,,	1·07	0·96	3·42	1·22	2·61	0·17	2·81	2·35	1·59	2·13	4·92	2·90	26·15
Dollar,	Clackmannan,	1·55	2·18	4·43	2·56	2·57	0·65	3·00	3·33	1·35	3·43	6·37	3·70	35·12
Alloa,	,,	0·73	1·20	3·89	1·37	2·13	0·86	2·55	2·64	0·89	2·22	4·11	2·44	25·03
Loch Leven Sluices	Kinross,	1·40	1·22	4·29	1·97	1·91	0·38	2·09	4·03	1·79	1·99	6·03	3·18	30·28
Blairingone,	,,	1·38	1·64	4·56	2·73	2·64	0·72	3·36	3·33	1·30	2·62	5·55	3·24	33·07
Gelly Bank,	,,	1·20	1·29	4·12	1·93	1·76	0·78	2·45	3·47	1·52	1·74	5·03	2·74	28·03
Kerse, Gauge No. I.	Stirling,	1·25	1·86	3·40	1·33	1·45	0·70	3·00	2·89	1·35	2·34	4·07	3·25	26·89
,, ,, No. II.	,,	1·30	1·80	3·50	1·40	1·50	0·70	2·90	3·40	1·40	2·40	4·00	3·20	27·50
Polmaise,	,,	1·28	1·62	4·43	0·88	1·70	1·42	2·23	4·70	1·32	2·28	4·17	2·90	28·93
Stirling Waterw'rks.	,,	1·64	2·14	5·94	2·30	1·90	0·74	2·44	5·05	2·08	2·64	5·71	3·79	36·37
Mugdock Reservoir,	,,	2·95	2·80	3·45	2·60	2·25	0·85	3·20	3·35	3·00	2·45	3·60	3·70	34·20
Currymire,	,,	2·75	2·94	4·97	3·41	3·01	0·98	3·35	4·63	3·14	3·20	4·44	4·55	41·87
Falkirk, Cauldhame,	,,	1·47	1·97	3·52	1·95	1·46	0·65	2 92	2·90	1·37	2·33	4·22	3·51	28·27
,, Burgh B'gs,	,,	1·31	1·74	3·34	2·24	1·37	0·59	1·75	2·82	2·02	2·22	4·43	3·58	27·41
,, Hospital,	,,	1·76	2·71	3·70	2·52	1·56	0·45	1·99	2·34	1·52	2·81	4·47	4·31	30·14
Arrochar,	Dumbarton,	7·70	5·08	7·18	5·94	2·96	1·76	3·46	6·55	4·87	5·23	8·02	6·76	65·51
Roseneath, Achnashie	,,	5·00	4·25	6·00	3·75	2·40	1·15	3·60	7·00	3·40	5·65	6·60	5·45	54·25
Helensburgh Wa'w'ks	,,	2·90	2·97	3·95	2·90	2·19	0·86	3·00	4·94	2·26	4·34	4·60	3·88	38·79
Glenborrodale	Argyll,	6·95	7·22	7·57	2·84	3·89	1·13	6·47	4·65	9·32	7·43	6·72	5·97	70·16
Quinish,	,,	4·29	5·03	7·93	3·14	3·40	1·24	3·75	4·20	5·96	6·21	5·80	5·37	56·32
Eriska,	,,	5·13	5·47	4·19	3·19	4·20	1·02	6·64	6·00	7·26	5·42	4·62	4·54	57·68
Laudale,	,,	8·63	9·67	10·04	4·26	3·34	2·12	6·47	6·14	8·96	7·19	7·69	6·88	81·39
Ballachulish House.	,,	9·44	9·15	11·11	4·31	4·25	3·78	6·77	7·53	9·76	5·13	7·68	8·19	87·10
Drimnin,	,,	5·79	5·56	7·63	2·72	3·16	1·15	4·93	4·58	7·18	7·07	6·55	5·54	61·86
Glenstriven,	,,	7·38	7·43	8·52	4·62	3·12	2·08	4·24	...	...	...	...	...	...
Inveraray, Newton.	,,	7·12	6·88	7·97	3·82	3·70	2·05	4·46	6·22	5·59	6 30	6·76	7·66	68·53
Ardrishaig Canal Of..	,,	7·93	6·80	6·80	4·49	2·61	1·71	4·17	6·21	6·53	7·07	7·25	6·33	67 90
Campbeltown, The Rectory,	,,	5·38	3·88	3·64	2·53	1·51	2·51	2·55	5·09	3·23	6·41	7·30	3·47	47·50
,, Witchburn,	,,	4·04	3·62	3·83	2·35	1·51	2·44	2·56	4·86	2·90	5·74	6·41	3·17	43·43
Largie Castle,	,,	2·77	3·20	4·26	2·48	1·72	1·16	3·38	6·72	3·25	5·84	5·72	3·26	43·76
Dunoon,	,,	6·83	6·23	7·70	4·64	2·86	1·69	4·43	7·56	3·63	6·22	8·28	6·69	66·76
Tighnabruaich,	,,	5·34	5·74	6·61	3·22	2·95	1·09	4·03	6·59	4·19	6·07	6·78	4·46	57·07
Ardbeg,	,,	4·26	4·61	3·67	2·57	2·72	1·47	3·55	5·82	3·87	5·64	4·45	3·31	45·94
Islay, Eallabus,	,,	4·53	4·07	5·62	3·03	3·02	1·42	3·54	5·65	4·49	6·01	6·13	4·28	51·79
Waulk Glen Res.,	Renfrew,	3·30	3·65	4·40	2·90	1·85	1·25	3·60	4·60	3·15	3·50	5·20	5·30	42·70
Ryat Linn Reservoir,	,,	3·40	3·75	4·55	3·00	1·95	1·30	3·70	4·70	3·25	3·60	5·35	5·45	44·00

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1905—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Middleton, . .	Renfrew, .	4·20	4·40	5·50	3·60	2·50	1·40	4·20	5·40	4·00	4·00	5·50	5·60	**50·30**
Black Loch, . .	,, .	4·40	3·50	5·40	3·50	2·60	1·40	4·30	5·20	4·05	3·80	5·60	5·70	**49·45**
Castle Semple, .	,, .	3·46	3·15	4·56	3·05	1·83	0·50	2·53	4·82	2·91	4·01	4·93	3·99	**39·74**
Kilmalcolm, St. Oswald's,	,, .	2·89	3·35	5·03	2·63	1·11	1·06	2·73	5·27	3·15	4·23	7·07	4·80	**43·32**
,, Wat'w'ks,	,, .	5·98	7·08	7·19	4·85	2·47	2·24	3·76	6·80	5·37	6·17	9·84	7·70	**69·45**
Greenock Wat'w'ks.—														
Prospect Hill, .	,, .	4·66	5·89	6·73	4·22	2·46	1·51	3·99	6·17	2·93	4·92	7·12	5·90	**56·50**
New Yetts Dam,	,, .	4·68	5·79	6·96	5·35	3·39	1·59	4·50	7·28	3·55	5·72	7·57	5·95	**62·33**
Hole Glen, .	,, .	4·51	5·27	6·41	4·79	3·25	1·32	4·49	6·89	3·19	4·91	6·81	5·46	**57·30**
Spango Burn, .	,, .	5·30	5·70	6·50	4·40	3·20	1·60	4·20	6·40	3·70	5·80	7·60	7·20	**61·60**
Shielhill, . .	,, .	5·60	5·50	6·60	4·90	3·00	1·50	4·40	6·50	3·90	5·50	7·50	7·80	**62·70**
Comp'nsat'n Res.,	,, .	4·82	5·80	6·86	5·29	3·01	1·79	4·68	6·33	3·77	5·56	7·70	6·28	**61·89**
Loch Thom, .	,, .	4·75	5·49	6·66	5·01	3·01	1·75	4·61	6·43	3·66	5·16	7·62	6·19	**60·34**
Kelly Dam, .	,, .	5·10	4·00	6·30	4·80	2·40	1·90	4·20	5·80	5·10	5·50	7·50	6·20	**58·80**
Knockencorsan,	,, .	4·50	3·50	6·10	4·50	2·60	1·30	4·80	6·40	4·80	5·60	5·90	5·50	**55·50**
Largs Road, .	,, .	3·10	3·60	6·25	2·75	1·65	1·37	3·60	5·34	3·80	5·32	5·00	5·05	**46·83**
Creuch Hill, .	,, .	3·20	3·20	7·10	3·00	2·30	1·60	4·40	7·20	4·20	4·80	7·70	5·80	**54·50**
Duchall Moor, .	,, .	5·20	4·90	8·20	3·90	2·50	2·30	4·60	7·70	5·50	5·40	9·00	6·00	**65·80**
Green Water, .	,, .	5·30	6·30	7·60	3·60	2·50	1·90	4·20	7·10	4·40	5·10	8·10	6·20	**62·30**
Gryfe Reservoir,	,, .	4·80	5·20	6·80	4·50	2·30	1·70	4·00	6·90	4·00	4·90	7·90	6·10	**59·10**
Mansfield, .	,, .	4·65	5·08	6·76	4·50	2·22	1·80	3·94	6·61	3·84	4·71	7·87	5·95	**57·93**
Darndaff Moor, .	,, .	5·00	5·10	7·50	3·30	2·50	1·70	4·10	6·60	3·80	5·30	8·00	6·40	**59·30**
Paisley W'terw'ks—														
Stanely, . .	,, .	2·44	2·96	4·20	2·83	1·42	1·07	2·68	4·16	2·46	3·27	4·71	3·66	**35·86**
Back Thornley-muir, . .	,, .	2·54	2·82	4·29	3·50	2·28	1·45	3·50	4·95	3·32	3·77	5·51	3·55	**41·43**
Muirhead, . .	,, .	3·68	3·48	5·73	3·67	2·35	1·52	4·76	5·53	4·11	4·46	6·03	5·39	**50·71**
Springside, .	,, .	4·47	4·19	6·67	4·06	2·59	1·75	5·05	6·05	4·45	4·74	6·72	6·11	**56·85**
Paisley, Crookston House, . .	,, .	1·75	2·45	3·30	2·15	1·10	0·50	2·45	3·90	2·10	2·75	4·25	3·60	**30·30**
Auchendores Res.,	,, .	2·95	4·68	4·40	2·69	1·62	0·58	2·75	4·85	2·82	3·65	6·68	4·40	**42·07**
Dougliehill Res., .	,, .	3·89	4·93	4·62	2·83	1·67	0·56	2·92	5·33	3·07	4·04	6·50	5·00	**45·36**
Loch Finlas, .	Ayr, . .	4·80	6·32	7·68	3·34	2·64	2·54	1·88	5·26	3·34	6·70	8·08	7·54	**60·12**
Camphill, . .	,, . .	...	...	...	...	...	...	...	...	...	...	...	...	**56·25**
Dalry, Blair, .	,, . .	...	...	...	...	...	...	...	...	...	...	...	...	**47·07**
Pinmore, . .	,, . .	3·34	4·32	4·81	3·22	1·22	2·35	2·82	5·48	3·81	4·48	6·11	4·50	**46·46**
Saltcoats, . .	,, . .	2·82	3·12	4·42	2·02	1·60	1·84	2·54	5·18	2·27	3·44	3·91	3·27	**36·43**
Kilmarnock, North Craig, . .	,, . .	4·00	2·50	4·20	2·00	3·00	1·00	3·40	4·40	4·60	3·70	3·50	4·00	**40·30**
Ayr, Doonside, .	,, . .	2·83	3·42	3 96	2·71	1·45	1·62	3·17	4·46	3·05	3·59	3·45	4·91	**38·62**
,, Doonholm, .	,, . .	3·03	3·23	3·65	2·63	1·37	1·43	2·84	4 12	2·90	3·47	3·42	4·67	**36·76**
Glendrishaig, .	,, . .	2·48	2·20	2·36	2·32	1·25	1·15	2·70	4·30	2·40	3·35	3·30	3·69	**31·50**
Maybole, Knockdon,	,, . .	...	...	...	...	...	...	...	...	...	...	...	...	**36·57**
,, Culzean,	,, . .	2·40	3·35	3·40	2·10	1·70	1·90	2·60	4·80	3·50	3·45	4·05	3·40	**36·65**
Colmonell, . .	,, . .	2·98	3·95	4·16	2·68	0·89	1·76	1·79	5·00	2·90	4·89	6·68	3·81	**41·44**
Glasgow C'p'ation—														
Queen's Park, .	Lanark, . .	1·78	2·51	3·16	1·79	1·67	0·82	2·81	3·61	2·11	2·57	3·29	3·50	**29·62**
Maxwell Park, .	,, . .	1·56	2·40	3·30	1·91	1·52	0·20	2·80	3·78	2·53	2·30	3·61	3·87	**29·78**
Kelvingrove, .	,, . .	2·13	2·47	3·17	2·37	1·56	0·74	2·64	3·83	3·01	2·27	3·34	3·33	**30·86**
Springburn Park,	,, . .	1·98	2·02	2·95	2·31	1·48	1·34	2·61	3·15	2·04	2·08	3·28	3·46	**28·70**
Alexandra Park,	,, . .	2·08	2·59	3·36	2·56	1·83	0·61	2·66	3·38	2·03	2·31	3·26	3·20	**29·87**
Glasgow Green,	,, . .	1·71	2·33	2·96	1·78	1·50	0·57	2·45	3·69	2·03	2·22	3·35	3 41	**28·00**
Bellahouston Pk.,	,, . .	1·98	2·02	2·95	2·31	1·48	1·34	2·29	3·54	2·25	1·95	2·54	2·93	**27·58**
Tollcross Park,	,, . .	2·03	2·58	3·64	2·29	1·88	0·51	2·56	3·15	2·09	2·39	3·63	3·44	**30·19**
Ruchill Park, .	,, . .	2·51	2·56	3·31	2·65	2·13	0·65	2·93	3·93	2·75	2·54	3·70	3·49	**33·15**
Botanic Gardens,	,, . .	1·32	1·96	3·05	2·48	1·65	0·52	2·60	3·50	2·40	2·29	2·32	3·07	**27·16**
George Square,	,, . .	1·35	1·94	2·94	2·58	1·80	0·56	2·45	3·64	2·38	2·20	3·19	3·21	**28·24**
Hamilton W'terw'ks	,, . .	1·90	2·60	4·00	2·15	1·25	0·65	2·70	2·95	2·50	2·10	3·00	3·40	**29·20**
Mauldslie Castle, .	,, . .	1·64	2·82	3·65	2·11	0·98	0·47	2·38	3·16	2·22	1·87	2·62	3·59	**27·51**
Cambus-Wallace, .	,, . .	0·85	1·40	3·40	2·40	1·20	0·90	1·98	3·60	1·40	2·05	2·85	1·75	**23·78**
Lanark Rhyber L'ge,	,, . .	1·30	1·70	3·80	2·00	1·50	0·70	3·30	3·30	1·80	2·40	2·50	3·00	**27·30**
Cleghorn, . .	,, . .	1·43	2·38	4·29	2·55	1·76	0·95	3·94	3·68	2·29	2·69	2·66	3·58	**32·20**
Lamington, . .	,, . .	2·05	2·74	5·37	3·11	1 23	1·47	1·99	3·38	2·18	3·20	2·94	2·50	**32·11**
Hillend Reservoir,	,, . .	2·02	2·21	4·03	2·65	1·65	0·79	3·11	3·83	2·39	2·30	3·76	3·39	**32·13**
Roughrigg Res., .	,, . .	2·10	2·19	4·20	2·59	1·05	0·83	4·01	3·14	2·75	2·06	4·29	3·00	**32·21**
Polkemmet, . .	Linlithgow, .	2·48	3·07	5·12	3·21	1·19	0·90	3·44	4·16	3·19	2·62	4·66	4·40	**38·44**
Boghead, . .	,, .	2·11	2·71	3·88	2·47	1·02	0·79	2·88	3·38	3·23	2·58	4·50	3·64	**33·19**
Bo'ness, Grange, .	,, .	1·04	1·17	3·05	1·19	1·28	0·40	2·11	2·02	1·65	1·96	3·70	2·36	**21·93**
Carriber Reservoir,	,, .	1·36	1·70	3·27	1·76	0·83	0·44	2·60	3·29	2·23	2·15	4·13	2·72	**26·48**
Uphall, . .	,, .	1·36	1·82	3·02	1·91	0·97	0·52	2·30	3·09	2·50	2·16	3·76	2·15	**25·56**
Addiewell, . .	Edinburgh, .	1·98	2·37	3·98	2·32	1·31	0·82	2·50	3·08	2·97	2·15	3·49	2·75	**29·72**
Edin. Waterworks—														
Portmore, . .	,, .	1·26	1·58	4·37	2·37	1·47	1·02	1·84	3·77	2·87	2·75	3·98	1·62	**28·90**
Bowbate, . .	,, .	1·85	2·25	5·58	3·05	2·40	1·60	2·50	4·80	4·10	3·55	5·50	2·07	**39·25**
Gladhouse, .	,, .	1·08	1·45	3·82	2·45	1·68	1·28	1·76	3·52	3·12	2·67	4·08	1·87	**28·73**

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1905—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Edin. Waterworks—		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Rosebery,	Edinburgh,	0·66	1·47	3·66	2·61	1·68	1·18	1·63	2·98	3·27	2·29	3·25	1·92	26·60
Glencorse,	,,	1·22	1·80	4·37	2·39	1·41	1·07	2·28	4·05	3·00	2·60	3·13	2·09	29·41
Loganlea,	,,	1·11	1·88	4·57	2·09	1·34	0·88	2·42	3·90	2·88	2·53	3·90	2·22	29·72
Harehill,	,,	1·15	2·00	4·80	2·15	1·50	1·15	2·50	4·05	2·95	2·60	3·80	2·65	31·30
Harbour Hill,	,,	2·28	2·50	4·08	2·10	2·22	1·10	1·90	4·50	3·00	2·90	4·20	2·10	32·88
Clubbiedean,	,,	0·74	1·70	3·48	2·06	0·90	0·80	1·80	3·60	2·22	2·48	4·14	1·40	25·32
Harlaw,	,,	1·01	1·95	4·18	1·98	0·97	0·93	2·02	3·92	2·62	2·63	4·34	1·65	28·20
Harperrig,	,,	1·22	1·98	5·05	2·58	1·53	1·08	3·16	4·05	3·41	2·59	4·12	2·49	33·26
Crosswood,	,,	1·77	2·38	4·90	2·57	1·44	1·13	2·96	3·64	3·05	2·54	3·58	3·08	33·04
Alnwick Hill,	,,	0·99	1·24	2·74	1·47	0·88	0·93	1·49	2·63	1·48	1·68	3·62	1·39	20·54
Swanston,	,,	0·83	1·75	4·08	1·78	1·20	0·59	2·53	3·10	1·70	2·05	3·83	1·63	25·07
Edgelaw,	,,	0·66	1·46	3·67	2·61	1·68	1·17	1·63	2·96	3·30	2·31	3·10	2·23	26·78
Davidson's Mains,														
Broomfield,	,,	0·90	1·02	2·77	1·38	0·85	0·83	2·84	2·51	1·51	1·96	3·36	1·66	21·59
Leith, M.O.,	,,	0·73	0·95	2·20	1·37	0·75	1·10	1·67	2·59	1·57	1·95	3·17	1·13	19·18
Edinburgh—														
Charlotte Square,	,,	0·60	1·20	2·62	1·45	0·80	1·00	1·49	2·35	1·75	2·00	3·40	1·30	19·96
George Square,	,,	0·66	0·91	2·64	1·30	0·93	1·49	1·56	2·33	1·31	1·69	3·60	1·09	19·51
Streatham House,	,,	0·90	1·40	3·00	1·50	1·10	1·10	1·80	2·90	1·50	2·20	4·00	1·60	23·00
City Observatory,	,,	0·53	0·95	2·42	1·37	0·76	1·13	1·73	2·48	1·37	2·00	3·35	1·12	19·21
Stow, Burnhouse,	,,	0·82	1·75	3·88	2·05	1·40	2·10	1·40	3·03	2·43	2·80	...	...	...
Aberlady,	Haddington,	0·53	0·89	2·08	1·80	0·94	0·57	1·71	2·72	1·68	1·74	3·71	0·91	19·28
No. Berwick Res.,	,,	0·50	0·65	1·80	1·50	0·85	0·85	2·00	2·80	2·10	2·50	3·40	1·20	19·65
Donolly Reservoir,	,,	2·20	1·21	2·73	2·41	1·30	1·43	3·43	3·37	4·02	2·75	5·75	1·00	31·60
Whittingehame,	,,	0·57	0·93	2·10	2·32	0·92	0·61	3·31	2·65	2·20	2·13	6·46	1·04	25·24
Witches Knowe	,,	0·61	1·38	2·49	1·41	0·81	2·11	1·45	2·62	3·00	2·11	3·68	1·65	23·32
The Hangingshaw,	Selkirk,	1·16	1·31	2·68	2·27	1·09	1·94	1·67	3·78	2·04	2·76	3·85	0·84	25·39
Talla Waterworks,														
Meggat Head, No. 1	,,	2·20	3·05	9·03	4·35	2·95	2·10	3·37	5·50	2·70	4·17	6·50	2·67	48·59
North Esk Res.,	Peebles,	2·05	2·65	4·00	3·10	1·50	1·45	2·70	3·60	3·10	2·25	3·65	2·80	32·85
Talla Waterworks—														
Loch Craig Head, No. 2,	,,	2·21	2·45	7·78	4·50	3·73	2·58	3·43	7·78	3·96	4·42	6·38	4·04	53·26
Ravenscraig, No. 3,	,,	2·19	2·01	6·89	5·71	5·30	1·42	5·96	7·50	4·10	4·35	5·98	5·69	57·10
Gameshope Loch, No. 4,	,,	1·89	1·85	8·08	5·43	4·96	3·52	4·38	7·66	4·12	4·45	7·75	5·07	59·16
Gameshope Farm, No. 5A,	,,	3·03	2·71	10·14	5·58	4·82	3·39	4·44	8·37	3·92	5·12	8·89	5·70	66·11
,, No. 5,	,,	2·50	2·43	8·20	5·05	3·96	3·02	4·18	7·23	3·73	4·68	8·50	5·11	58·59
Talla Linns Foot, No. 6A,	,,	2·73	3·43	9·19	4·48	3·17	2·54	3·71	6·39	3·13	4·27	8·11	4·41	55·56
,, No. 6,	,,	2·66	3·30	9·00	4·33	3·05	2·51	3·58	6·19	2·99	4·12	7·91	4·28	53·92
Quarter Hill, No. 7A,	,,	2·58	2·50	6·62	3·39	2·56	2·38	3·18	4·41	2·76	3·63	5·67	3·97	43·65
,, No. 7,	,,	2·53	2·29	6·56	3·29	2·32	2·34	3·16	4·25	2·67	3·73	5·50	3·87	42·51
West Linton,	,,	1·78	2·86	4·21	2·98	1·57	1·23	2·94	3·02	3·14	2·87	3·33	2·80	32·73
Swinton Bank,	,,	1·42	2·17	4·92	2·31	1·51	1·20	2·07	3·08	2·19	2·77	3·38	1·45	28·47
The Hirsel,	Berwick,	0·72	0·93	1·95	2·67	0·99	0·26	1·76	3·13	1·73	3·72	3·88	0·70	22·44
Cowdenknowes,	,,	0·90	1·33	3·09	2·34	1·23	1·55	2·12	5·88	2·00	2·11	3·78	1·14	27·47
Elliston,	Roxburgh,	0·87	1·11	2·73	2·59	0·89	1·47	2·25	3·99	2·17	2·06	3·14	0·90	24·17
St. Boswells, Fens,	,,	0·65	0·78	2·69	2·04	1·09	1·15	1·22	4·40	2·04	2·19	3·19	0·67	22·11
Wooplaw,	,,	0·95	1·33	3·22	2·41	1·43	1·79	2·14	3·52	2·02	2·77	3·98	1·46	27·02
Lilliesleaf,	,,	1·15	1·17	2·94	2·84	0·87	1·99	2·08	4·62	2·49	2·28	3·38	0·87	26·68
Springwood Park,	,,	0·65	0·86	2·52	3·26	0·67	1·28	1·52	3·67	2·10	2·52	3·45	0·64	23·14
Jedburgh, Ancrum Bridge,	,,	1·06	1·35	3·19	2·86	0·95	1·42	1·59	3 30	2·40	2·47	3·31	0·87	24·77
Branxholm,	,,	1·24	1·61	3·15	2·64	1·36	1·60	0·78	3·58	2·23	1·97	3·44	1·48	25·08
Ewes,	Dumfries,	2·50	3·20	6·27	4·19	3·15	2·70	2 67	5·66	3·92	3·40	5·18	3·23	46·07
Drumpark,	,,	3·20	3·19	6·10	4·29	2·98	2·45	2·50	4·26	1·80	3·24	5·22	3·46	42·69
Langholm, Burnfoot,	,,	2·73	3·16	6·15	4·24	3·10	2·18	2·28	5·89	4·24	3·42	5·30	3·49	46·18
,, Drove Road,	,,	2·66	3·08	5·86	4·46	3·37	2·35	4·05	5·79	3·90	3·48	5·09	3·29	47·38
Byreburnfoot,	,,	(3·63)		4·87	3·25	3·25	1·25	2·75	4·00	3·37	(6·13)		2·12	34·62
Ericstane,	,,	3·12	3·49	6·80	3·99	3·09	2·25	2·05	3·99	2·26	3·60	4·93	3·77	43·34
Moffat, Hope Lodge,	,,	2·63	2·99	6·37	3·86	2·79	1·86	2·07	5·05	2·87	3·63	4·88	2·89	41·89
Lochmaben,	,,	2·13	1·97	4·90	3·68	2·98	2·62	3·13	3·64	2·33	2·57	3·95	1·67	35·57
Maxwelton House,	,,	2·73	3·41	5·76	3·50	2·23	3·10	1·45	4·53	2·10	3·59	5·39	3·61	41·40
Glencrosh,	,,	3·40	4·17	6·08	3·55	2·24	3·12	1·96	5·32	2·29	4·11	6·14	4·30	46·68
Dalbeattie, Richorn,	Kirkcudbright,	1·37	2·21	4·16	3·70	3·12	2·35	1·39	4·43	1·78	3·15	4·74	3·37	35·77
,, Kirkennan,	,,	1·95	2·62	4·52	4·03	3·11	2·77	1·49	4·30	1·89	3·36	5·09	3·71	38·84
Old Garroch,	,,	4·93	5·61	6·98	4·57	2·36	3·32	2·46	5·27	2·11	4·81	8·26	6·14	56·82
Glendarroch,	,,	3·34	4·56	6·26	3·77	1·65	2·51	2·38	4·56	1·62	4·05	7·42	5·28	47·40
Auchencairn,	,,	1·59	2·90	3·79	3·94	3·09	2·58	0·84	5·62	2·06	3·38	4·35	3·46	37·60
Ken Bridge,	,,	2·58	3·10	5·09	3·40	1·78	2·46	1·73	4·03	1·47	3·90	6·59	3·85	39·98
Ardwell House,	Wigtown,	1·47	2·05	2·49	2·30	0·84	1·51	1·46	4·99	2·47	3·08	4·91	1·23	28·80
Galloway House,	,,	2·00	2·79	3·47	2·26	1·38	2·37	1·13	4·92	2·01	3·33	4·48	2·07	32·21
Whithorn, Cutroach,	,,	1·65	2·92	3·23	2·91	1·23	2·09	1·33	4·95	1·98	2·88	3·65	1·60	30·42
Douglas,	Isle of Man,	1·76	1·94	4·28	2·87	1·89	3·22	1·41	5·50	2·10	3·61	4·88	1·74	35·20

7. RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

JANUARY–MARCH 1905.

	HEIGHT.	Mean Temperature.	BAROMETER.	DIRECTION OF WIND.								Calm or Variable.	Gales and Storms.	RAIN.		Fog.
			Mean at 32°.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
JANUARY.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	39·8	29·825	1	1	1	5	1	9	11	2	0	81	3	0·44	0
Isle of May	240	40·3	29·781	1	0	1	1	4	3	20	1	0	12	6	0·10	19
Bell Rock	93	40·8	29·946	0	0	0	4	4	10	12	1	0	52	2	...	0
Kinnairdhead	120	39·7	29·833	2	1	0	1	6	4	8	9	0	84	14	1·55	1
Tarbetness	175	40·1	29·743	1	0	0	2	7	4	7	10	0	68	15	0·95	0
Pentland Skerries	170	41·2	29·685	2	1	1	2	9	4	9	3	0	143	19	2·75	0
Hoy Sound, Low	55	41·4	29·808	1	0	1	5	5	5	9	5	0	194	17	3.48	11
Start Point	80	41·6	29·780	1	1	1	4	6	5	9	4	0	227	17	3·49	0
Bressay Sound	105	41·0	29·682	1	1	1	2	8	4	8	5	1	125	22	7·20	5
Holbornhead	75	40·9	29·790	2	0	0	4	5	8	9	3	0	118	21	2·48	0
Cape Wrath	400	40·6	29·418	2	0	1	4	3	11	4	6	0	131	21	2·32	20
Butt of Lewis	170	42·1	29·651	1	1	1	3	5	8	7	5	0	67	25	4·98	3
Barrahead	683	41·2	29·270	0	0	1	3	7	6	10	4	0	24	20	2·72	69
Skerryvore	150	42·8	29·863	1	0	0	5	4	7	9	5	0	145	17	...	9
Rona	222	42·8	29·708	0	0	3	1	9	4	10	4	0	50	18	2·49	7
Ardnamurchan	180	42·9	29·835	3	1	0	3	8	6	7	3	0	18	22	2·42	40
Rhinns of Islay	150	43·8	29·887	1	1	0	4	6	4	9	6	0	133	20	1·88	5
Mull of Kintyre	297	42·5	...	0	1	1	7	3	5	5	9	0	117	14	4·40	18
Turnberry	96	42·9	29·984	0	1	2	8	4	8	5	3	0	128	14	1·90	0
Corsewall	112	43·2	29·985	1	0	1	7	6	7	5	4	0	84	20	2·05	13
Mull of Galloway	325	42·7	29·760	1	0	1	5	5	9	7	3	0	112	8	0·87	4
FEBRUARY.																
St. Abb's Head	224	39·8	29·746	4	2	2	1	1	7	10	1	0	49	4	0·90	3
Isle of May	240	39·8	29·707	2	0	2	1	1	1	17	4	0	20	6	0·10	3
Bell Rock	93	39·8	29·854	3	2	2	1	2	4	13	1	0	0	4	...	3
Kinnairdhead	120	38·8	29·756	2	1	0	1	3	4	7	9	1	99	16	1·71	9
Tarbetness	175	38·1	29·691	5	0	0	0	4	5	6	8	0	17	19	1·41	26
Pentland Skerries	170	39·7	29·631	3	1	1	1	6	5	8	3	0	47	20	1·80	21
Hoy Sound, Low	55	39·3	29·758	3	0	1	3	4	4	8	5	0	9	20	4·36	29
Start Point	80	39·3	29·718	2	1	1	2	3	6	9	4	0	54	18	2·83	3
Bressay Sound	105	39·3	29·628	2	1	1	2	4	5	7	5	1	51	22	5·20	22
Holbornhead	75	39·1	29·733	2	2	1	1	5	5	9	2	1	30	23	4·42	39
Cape Wrath	400	38·9	29·389	1	2	0	1	1	14	5	4	0	88	20	3·95	47
Butt of Lewis	170	39·1	29·649	3	1	1	0	7	6	7	3	0	48	22	6·73	14
Barrahead	683	38·8	29·226	3	1	0	1	5	7	7	4	0	12	22	3·24	59
Skerryvore	150	41·8	29·832	3	0	1	1	3	6	8	6	0	107	12	...	10
Rona	222	40·7	29·663	2	1	0	2	8	6	5	4	0	28	21	3·02	28
Ardnamurchan	180	41·0	29·774	4	1	1	4	3	4	7	4	0	80	19	3·59	19
Rhinns of Islay	150	42·3	29·852	2	2	0	2	3	3	7	8	1	113	20	2·83	5
Mull of Kintyre	297	41·3	...	1	0	2	2	6	4	2	11	0	55	20	7·50	7
Turnberry	96	41·9	29·931	2	3	1	3	2	9	5	3	0	117	15	1·82	0
Corsewall	112	41·7	29·928	1	2	2	1	2	9	3	8	0	51	18	2·79	0
Mull of Galloway	325	40·9	29·712	3	1	2	1	4	5	8	4	0	9	10	0·97	8
MARCH.																
St. Abb's Head	224	41·7	29·311	2	1	2	6	5	10	3	2	0	6	12	1·80	19
Isle of May	240	41·8	29·294	1	1	1	3	7	2	15	1	0	14	12	1·21	36
Bell Rock	93	41·7	29·456	1	2	0	6	6	5	10	1	0	22	10	...	8
Kinnairdhead	120	41·5	29·395	1	1	0	1	12	7	4	5	0	16	18	2·43	15
Tarbetness	175	41·1	29·293	1	2	1	3	7	4	9	4	0	13	18	1·86	11
Pentland Skerries	170	42·1	29·284	2	2	1	5	13	3	2	3	0	11	18	2·91	31
Hoy Sound, Low	55	41·9	29·409	2	2	1	10	7	2	4	3	0	14	23	4·48	18
Start Point	80	42 6	29·389	2	2	3	9	8	1	4	2	0	48	14	3·34	0
Bressay Sound	105	42·7	29·382	2	3	1	6	12	4	2	1	0	66	19	4·40	40
Holbornhead	75	41·8	29·385	2	2	1	5	9	5	6	1	0	29	27	2·09	9
Cape Wrath	400	40·4	29·018	1	2	2	4	7	8	3	4	0	34	23	3·97	9
Butt of Lewis	170	41·9	29·338	2	2	3	3	11	4	2	4	0	0	23	3·72	1
Barrahead	683	40·1	28·762	2	2	1	1	10	8	5	2	0	0	26	3·65	44
Skerryvore	150	42·8	29·362	1	2	2	4	6	5	7	4	0	7	14	...	7
Rona	222	42·4	29·231	2	1	3	4	14	2	3	2	0	0	21	4·32	8
Ardnamurchan	180	42·6	29·329	1	2	1	5	10	3	6	3	0	0	22	5·53	0
Rhinns of Islay	150	43·7	29·376	1	2	1	4	5	7	5	5	1	13	19	2·81	5
Mull of Kintyre	297	42·6	...	3	0	1	10	8	3	2	4	0	17	11	4·40	24
Turnberry	96	43·7	29·459	3	1	1	12	7	5	2	0	0	32	18	1·80	0
Corsewall	112	43·0	29·453	1	2	0	8	5	9	3	3	0	13	22	3·13	1
Mull of Galloway	325	42·1	29·236	2	1	1	2	7	8	8	1	1	21	16	1·95	6

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

April–June 1905.

	Height.	Mean Temperature.	Barometer.	Direction of Wind.								Calm or Variable.	Gales and Storms.	Rain.		Fog.
			Mean at 32°.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
APRIL.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	41·7	29·553	6	4	2	5	4	4	4	1	0	11	12	2·59	55
Isle of May	240	41·9	29·532	5	1	5	4	4	1	6	4	0	0	14	1·28	116
Bell Rock	93	41·1	29·696	5	3	5	4	3	2	6	2	0	0	5	...	48
Kinnairdhead	120	41·1	29·665	7	2	3	2	6	3	1	6	0	24	14	2·20	84
Tarbetness	175	40·4	29·595	10	2	3	6	1	1	3	3	1	7	11	0·70	15
Pentland Skerries	170	40·8	29·591	5	4	2	6	2	2	2	7	0	0	22	1·67	22
Hoy Sound, Low	55	40·5	29·727	7	5	2	7	1	1	3	4	0	0	20	4·61	48
Start Point	80	40·6	29·685	7	5	2	5	2	1	2	6	0	24	16	1·21	1
Bressay Sound	105	39·7	29·654	8	3	4	5	4	1	0	4	1	0	22	4·20	54
Holbornhead	75	41·7	29·692	5	4	4	4	3	1	3	5	1	15	20	2·72	42
Cape Wrath	400	40·0	29·338	3	3	5	7	1	3	1	7	0	0	17	1·79	56
Butt of Lewis	170	40·5	29·596	5	3	8	4	3	2	1	4	0	0	19	1·93	14
Barrahead	683	39·7	29·046	5	7	1	4	6	3	1	3	0	0	12	2·46	84
Skerryvore	150	42·7	29·638	7	3	3	4	5	3	2	3	0	0	5	...	28
Rona	222	42·2	29·559	4	6	6	2	4	3	2	3	0	0	13	2·40	13
Ardnamurchan	180	43·4	29·597	7	4	2	6	4	2	2	3	0	0	13	1·70	16
Rhinns of Islay	150	43·6	29·637	3	4	3	5	3	2	2	4	4	0	14	2·26	11
Mull of Kintyre	297	43·8	...	5	3	6	7	4	1	0	4	0	0	10	4·80	32
Turnberry	96	44·8	29·697	1	6	3	3	8	3	4	2	0	9	11	1·20	10
Corsewall	112	43·2	29·688	2	3	2	8	3	3	2	7	0	0	15	2·07	4
Mull of Galloway	325	43·1	29·451	2	3	3	5	4	4	2	6	1	0	12	1·72	38
MAY.																
St. Abb's Head	224	46·7	29·868	3	5	1	5	2	4	6	4	1	0	8	0·62	31
Isle of May	240	48·6	29·827	1	4	6	3	3	2	11	1	0	0	5	0·68	37
Bell Rock	93	47·7	29·987	2	5	4	2	6	6	4	1	1	0	4	...	8
Kinnairdhead	120	47·1	29·948	8	3	1	1	4	3	3	8	0	0	15	1·39	36
Tarbetness	175	47·2	29·877	4	4	5	4	2	3	3	6	0	0	15	1·17	33
Pentland Skerries	170	46·6	29·874	5	4	1	5	4	2	4	6	0	0	12	1·44	62
Hoy Sound, Low	55	46·9	29·994	3	3	1	7	1	4	8	4	0	0	13	2·25	62
Start Point	80	46·2	29·962	9	1	2	2	4	3	6	4	0	0	6	0·77	49
Bressay Sound	105	46·2	29·911	5	4	1	4	3	4	5	5	0	0	10	2·10	107
Holbornhead	75	47·7	29·970	3	7	2	2	3	5	6	2	1	0	17	2·01	88
Cape Wrath	400	45·9	29·618	2	2	6	3	0	10	4	4	0	0	13	1·85	88
Butt of Lewis	170	45·9	29·855	4	4	3	2	5	7	3	2	1	0	18	1·18	49
Barrahead	683	45·9	29·847	4	4	3	1	5	6	6	2	0	0	7	1·12	127
Skerryvore	150	48·4	29·928	3	6	1	3	4	5	4	5	0	0	9	...	10
Rona	222	49·0	29·839	9	4	1	1	8	2	3	2	1	0	14	1·81	24
Ardnamurchan	180	48·5	29·893	5	5	0	0	8	3	3	4	3	0	15	2·66	17
Rhinns of Islay	150	49·7	29·940	5	3	1	4	4	3	4	5	2	0	10	0·94	22
Mull of Kintyre	297	50·8	...	4	4	2	7	5	0	2	6	1	0	9	1·42	22
Turnberry	96	50·8	30·002	6	2	1	3	8	2	2	5	2	0	10	0·85	0
Corsewall	112	50·7	29·993	3	2	1	5	7	1	2	10	0	0	14	1·59	5
Mull of Galloway	325	50·6	29·769	5	1	4	2	7	4	2	5	1	0	6	0·72	69
JUNE.																
St. Abb's Head	224	53·2	29·748	4	9	3	4	2	4	2	2	0	0	1	0·05	102
Isle of May	240	52·6	29·733	0	6	10	4	1	2	6	1	0	0	5	0·69	123
Bell Rock	93	52·7	29·908	0	9	7	4	4	3	3	0	0	0	2	...	95
Kinnairdhead	120	53·2	29·868	3	5	2	3	9	5	1	2	0	0	7	1·69	95
Tarbetness	175	54·2	29·784	0	1	11	8	3	3	2	1	1	6	9	0·62	55
Pentland Skerries	170	52·5	29·795	2	8	3	7	3	2	2	2	1	0	5	1·10	113
Hoy Sound, Low	55	53·1	29·922	1	6	2	10	2	3	5	1	0	0	5	1·38	66
Start Point	80	51·8	29·899	5	5	6	4	5	1	1	3	0	0	4	0·80	99
Bressay Sound	105	51·4	29·857	8	4	2	3	6	2	2	2	1	0	9	1·60	141
Holbornhead	75	53·6	29·892	3	4	6	4	3	3	3	2	2	0	7	0·58	61
Cape Wrath	400	53·5	29·515	0	8	8	3	1	7	2	1	0	10	7	1·06	71
Butt of Lewis	170	53·9	29·771	4	5	7	4	3	3	3	1	0	0	6	1·32	42
Barrahead	683	52·7	29·205	4	4	7	2	5	4	1	1	2	0	4	0·40	62
Skerryvore	150	54·6	29·795	5	2	2	7	5	4	2	2	1	0	7	...	4
Rona	222	56·4	29·718	8	2	6	2	6	1	2	2	1	0	6	1·47	18
Ardnamurchan	180	57·0	29·768	5	7	4	2	2	4	3	3	0	0	5	1·25	4
Rhinns of Islay	150	56·5	29·793	1	4	7	6	4	2	4	1	1	0	5	2·05	14
Mull of Kintyre	297	57·9	...	2	5	8	7	3	2	1	1	1	0	8	0·39	7
Turnberry	96	56·7	29·867	2	12	3	2	4	3	1	1	2	0	5	1·15	6
Corsewall	112	57·2	29·840	5	7	4	1	6	4	1	0	2	0	8	1·77	5
Mull of Galloway	325	57·0	29·615	3	2	10	4	5	3	1	1	1	0	7	1·29	13

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

JULY–SEPTEMBER 1905.

	Height.	Mean Temperature.	Barometer. Mean at 32°.	Direction of Wind. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm or Variable.	Gales and Storms.	Rain. Days.	Rain. Amount.	Fog.
JULY.	Feet.	°	Inches.										Hrs.		Inches	Hrs.
St. Abb's Head	224	60·1	29·731	1	2	1	1	2	6	11	6	1	0	6	2·58	29
Isle of May	240	59·0	29·691	0	3	2	1	2	2	20	1	0	0	8	1·15	107
Bell Rock	93	57·5	29·842	2	4	2	1	2	7	12	1	0	0	7	...	84
Kinnairdhead	120	57·6	29·785	1	1	0	4	4	4	5	11	1	0	14	2·42	71
Tarbetness	175	56·8	29·710	1	2	8	3	2	2	5	8	0	0	15	1·12	53
Pentland Skerries	170	55·2	29·702	1	2	3	5	2	4	10	2	2	0	12	1·50	94
Hoy Sound, Low	55	56·3	29·829	1	1	2	7	2	6	9	3	0	8	13	2·40	68
Start Point	80	55·7	29·806	2	2	4	4	4	5	8	2	0	0	6	2·10	35
Bressay Sound	105	54·1	29·744	1	3	4	4	2	6	8	2	1	0	17	3·20	45
Holbornhead	75	56·9	29·810	2	1	2	3	4	4	9	4	2	0	17	2·14	46
Cape Wrath	400	54·4	29·459	0	1	4	1	1	16	6	2	0	0	20	3·66	99
Butt of Lewis	170	55·8	29·702	2	2	2	1	2	15	4	3	0	0	15	2·02	8
Barrahead	683	54·2	29·204	2	1	1	1	2	10	9	2	3	0	13	2·35	189
Skerryvore	150	57·1	29·807	3	2	1	3	1	7	11	3	0	0	11	...	68
Rona	222	56·2	29·693	4	2	1	0	9	7	4	3	1	0	20	2·45	17
Ardnamurchan	180	56·8	29·770	1	1	1	1	5	12	6	2	2	0	17	4·55	70
Rhinns of Islay	150	58·0	29·815	3	0	1	2	5	5	9	6	0	0	11	2·82	81
Mull of Kintyre	297	58·0	...	3	5	3	9	3	1	2	5	0	0	12	4·70	53
Turnberry	96	60·0	29·904	1	1	1	3	7	8	7	1	2	0	16	1·40	9
Corsewall	112	58·9	29·881	1	2	2	1	8	10	6	1	0	0	11	1·34	14
Mull of Galloway	325	59·7	29·654	1	1	1	1	3	11	9	3	1	0	11	1·16	69
AUGUST.																
St. Abb's Head	224	56·2	29·573	1	2	4	2	4	4	10	3	1	0	10	2·66	22
Isle of May	240	55·8	29·543	2	3	5	2	4	1	13	1	0	0	12	1·85	31
Bell Rock	93	55·2	29·696	2	3	8	1	4	4	9	0	0	8	11	...	19
Kinnairdhead	120	55·9	29·663	7	2	2	2	6	3	3	6	0	0	21	2·58	9
Tarbetness	175	54·6	29·592	5	2	5	4	2	4	3	5	1	0	22	1·96	29
Pentland Skerries	170	54·5	29·591	3	3	3	5	5	2	5	4	1	5	20	4·02	14
Hoy Sound, Low	55	55·0	29·718	3	2	3	5	2	6	6	3	1	0	17	3·13	22
Start Point	80	55·1	29·695	4	3	5	3	5	2	7	2	0	0	12	2·08	2
Bressay Sound	105	54·0	29·640	6	2	1	6	3	5	5	2	1	0	20	5·00	24
Holbornhead	75	55·3	29·694	3	5	5	3	3	1	5	6	0	8	28	3·05	33
Cape Wrath	400	53·4	29·328	4	8	3	2	1	7	4	2	0	0	18	3·95	56
Butt of Lewis	170	53·5	29·492	4	7	4	1	4	6	3	2	0	0	22	5·10	0
Barrahead	683	52·0	29·069	4	6	2	1	4	5	5	3	1	0	17	3·25	82
Skerryvore	150	55·7	29·653	2	5	3	4	2	3	6	6	0	0	12	...	16
Rona	222	55·0	29·563	4	6	5	0	6	5	1	4	0	0	17	2·84	0
Ardnamurchan	180	55·1	29·610	1	7	2	2	3	6	5	4	1	25	16	3·60	9
Rhinns of Islay	150	57·0	29·664	3	3	6	2	5	1	4	6	1	0	17	3·46	0
Mull of Kintyre	297	55·7	...	6	3	3	7	3	2	2	5	0	0	15	2·76	0
Turnberry	96	56·7	29·716	3	4	2	4	5	4	4	3	2	12	17	3·80	1
Corsewall	112	56·5	29·706	2	3	3	3	6	5	5	3	1	0	18	4·12	1
Mull of Galloway	325	56·2	29·479	5	1	3	5	4	3	6	3	1	0	19	4·56	1
SEPTEMBER.																
St. Abb's Head	224	53·5	29·673	2	4	4	2	3	6	7	2	0	26	7	1·59	1
Isle of May	240	53·2	29·652	2	4	2	3	2	3	13	1	0	0	10	1·01	15
Bell Rock	93	53·5	29·799	2	4	3	2	3	6	10	0	0	2	6	...	7
Kinnairdhead	120	52·9	29·742	3	2	3	4	3	8	2	5	0	24	10	2·21	8
Tarbetness	175	52·3	29·671	2	3	1	4	3	3	6	8	0	0	17	1·01	6
Pentland Skerries	170	52·0	29·661	0	4	0	6	5	3	7	5	0	0	15	1·81	12
Hoy Sound, Low	55	53·3	29·788	3	2	3	7	1	4	9	1	0	0	16	4·01	5
Start Point	80	52·7	29·761	2	3	3	5	2	5	7	3	0	36	9	1·65	5
Bressay	105	51·6	29·706	1	5	1	4	3	6	4	6	0	0	15	2·30	15
Holbornhead	75	52·5	29·765	1	2	5	4	2	5	5	6	0	0	19	2·37	14
Cape Wrath	400	51·2	29·406	1	2	4	3	2	11	5	2	0	15	19	4·86	64
Butt of Lewis	170	51·5	29·653	1	3	4	4	1	9	5	3	0	0	19	4·75	0
Barrahead	683	50·2	29·156	2	3	2	2	4	8	6	3	0	0	15	2·31	98
Skerryvore	150	53·2	29·762	1	4	1	5	1	5	9	4	0	0	18	...	2
Rona	222	52·6	29·642	4	2	5	2	7	5	3	2	0	0	16	3·98	0
Ardnamurchan	180	53·2	29·708	2	4	1	4	2	6	7	4	0	6	17	5·17	0
Rhinns of Islay	150	53·8	29·765	2	3	2	4	1	6	6	6	0	48	16	2·36	17
Mull of Kintyre	297	52·4	...	5	1	3	6	1	5	3	6	0	18	10	5·20	4
Turnberry	96	53·7	29·834	2	5	2	1	6	5	4	4	1	42	12	2·60	0
Corsewall	112	53·8	29·817	3	2	3	3	5	4	8	2	0	18	15	2·08	0
Mull of Galloway	325	52·7	29·608	4	1	4	2	4	4	6	4	1	0	9	1·08	10

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

OCTOBER–DECEMBER 1905.

	Height.	Mean Temperature.	Barometer. Mean at 32°.	Direction of Wind. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm or Variable.	Gales and Storms.	Rain. Days.	Rain. Amount.	Fog.
	Feet.	°	Inches.										Hrs.		Inches	Hrs.
OCTOBER.																
St. Abb's Head	224	44·5	29·719	11	2	1	1	3	1	10	2	0	95	16	3·69	4
Isle of May	240	45·4	29·691	10	5	1	0	2	0	12	1	0	0	13	1·44	32
Bell Rock	93	45·4	29·837	11	1	2	1	2	2	7	5	0	21	7	...	1
Kinnairdhead	120	45·2	29·791	16	3	1	1	0	2	3	4	0	95	29	4·01	0
Tarbetness	175	43·7	29·748	11	2	2	1	2	1	5	7	0	55	18	1·71	8
Pentland Skerries	170	44·7	29·786	11	3	2	1	2	3	5	4	0	47	24	5·45	6
Hoy Sound, Low	55	45·2	29·862	12	6	2	1	1	2	6	1	0	80	25	5·65	8
Start Point	80	44·7	29·827	13	2	2	0	3	0	8	3	0	80	17	3·66	0
Bressay Sound	105	43·2	29·757	14	2	3	1	1	3	3	4	0	89	22	5·60	0
Holbornhead	75	44·3	29·855	5	7	5	2	2	2	6	2	0	36	29	3·96	12
Cape Wrath	400	43·3	29·498	8	3	4	2	2	4	4	4	0	26	22	4·59	81
Butt of Lewis	170	44·8	29·765	9	4	4	1	1	4	3	5	0	48	21	4·53	5
Barrahead	683	44·0	29·267	9	5	2	1	1	3	6	4	0	0	20	3·96	122
Skerryvore	150	46·4	29·851	6	3	4	1	1	2	7	7	0	17	16	...	22
Rona	222	45·8	29·727	9	5	4	1	6	1	2	3	0	86	24	3·94	0
Ardnamurchan	180	46·7	29·801	4	6	3	1	2	2	6	6	1	60	21	4·76	0
Rhinns of Islay	150	47·7	29·845	9	3	4	0	2	1	6	5	1	80	15	2·58	5
Mull of Kintyre	297	46·9	...	9	4	3	1	1	4	1	8	0	29	13	3·52	14
Turnberry	96	46·9	29·913	3	4	5	3	1	1	6	8	0	47	11	2·80	2
Corsewall	112	47·7	29·878	6	5	1	1	2	2	4	10	0	41	14	2·99	1
Mull of Galloway	325	46·2	29·657	8	3	3	0	1	3	6	6	1	0	14	2·24	0
NOVEMBER.																
St. Abb's Head	224	41·6	29·393	3	3	5	6	3	5	4	1	0	10	18	3·5	14
Isle of May	240	42·1	29·349	4	4	5	2	3	2	10	0	0	0	17	3 6	36
Bell Rock	93	42 4	29·525	4	2	6	3	3	4	7	1	0	29	12	...	6
Kinnairdhead	120	41·5	29·493	3	5	1	7	4	7	2	1	0	111	22	4·57	0
Tarbetness	175	41·1	29·403	4	3	2	5	2	3	6	5	0	56	18	2·17	6
Pentland Skerries	170	42·7	29·415	4	3	4	6	5	4	1	3	0	57	21	2·98	0
Hoy Sound, Low	55	42·2	29·589	5	5	5	4	4	3	2	2	0	27	21	6·60	0
Start Point	80	43·5	29 509	6	1	7	2	6	3	3	2	0	113	14	2·89	0
Bressay Sound	105	42·8	29·498	7	2	4	6	3	4	3	1	0	57	22	5·40	0
Holbornhead	75	41·5	29·518	1	4	4	6	2	8	3	1	1	24	26	3·84	10
Cape Wrath	400	41·1	29·134	3	3	6	4	3	6	2	3	0	42	24	3·96	3
Butt of Lewis	170	42·3	29·383	6	4	3	5	6	3	2	1	0	5	22	4·02	0
Barrahead	683	41·7	28·865	4	6	2	2	7	3	4	2	0	0	23	3·74	0
Skerryvore	150	43·9	29·451	2	8	2	4	4	2	5	3	0	34	11	...	0
Rona	222	42·9	29·368	4	6	7	2	6	2	2	1	0	10	19	3·05	0
Ardnamurchan	180	44·1	29·421	4	5	7	2	5	1	5	1	0	41	19	2·88	0
Rhinns of Islay	150	44·7	29·460	1	6	5	4	4	3	5	2	0	86	17	4·82	0
Mull of Kintyre	297	43·7	...	4	6	5	5	3	3	1	3	0	70	15	2·67	0
Turnberry	96	43·6	29·538	2	5	8	4	6	1	2	2	0	48	14	2·30	0
Corsewall	112	44·6	29·509	1	7	4	6	5	2	3	2	0	22	13	4·58	0
Mull of Galloway	325	43·2	29·292	2	5	5	4	3	5	4	2	0	10	14	3·37	0
DECEMBER.																
St. Abb's Head	224	42·9	29·813	0	0	3	4	5	8	10	1	0	0	3	0·52	16
Isle of May	240	43·4	29·761	0	1	2	1	4	3	19	1	0	0	12	0·76	56
Bell Rock	93	43·1	29·916	0	1	2	3	4	9	12	0	0	0	7	...	5
Kinnairdhead	120	42·5	29·845	3	0	1	1	8	8	7	3	0	29	9	0·60	14
Tarbetness	175	41·9	29·728	0	0	2	2	5	6	10	5	1	26	14	0·55	56
Pentland Skerries	170	43·6	29·720	0	1	1	4	10	8	4	3	0	0	12	1·35	0
Hoy Sound, Low	55	43·7	29·809	1	0	3	1	12	7	6	1	0	118	18	2·81	0
Start Point	80	44·5	29·785	1	0	3	1	14	2	9	1	0	82	10	1·41	0
Bressay Sound	105	44·4	29·738	2	0	4	1	7	7	7	3	0	0	16	3·60	0
Holbornhead	75	42·6	29·806	1	1	1	2	7	7	10	2	0	0	17	1·58	18
Cape Wrath	400	42·5	29·410	0	0	2	4	4	11	6	4	0	109	21	3·88	43
Butt of Lewis	170	42·8	29·657	0	0	3	2	11	6	6	3	0	71	21	5·33	2
Barrahead	683	42·6	29·160	0	1	2	2	11	8	6	1	0	0	20	2·70	143
Skerryvore	150	44·1	29·786	1	0	1	6	6	5	11	1	0	33	13	...	2
Rona	222	43·8	29·666	0	1	2	1	13	10	3	1	0	0	21	3·49	0
Ardnamurchan	180	45·5	29·758	0	2	4	1	7	7	8	1	1	83	18	3·10	13
Rhinns of Islay	150	46·2	29·849	1	1	3	1	13	2	9	1	0	56	17	2·99	9
Mull of Kintyre	297	45·1	...	2	0	3	7	9	5	3	2	0	55	14	0·63	8
Turnberry	96	45·1	29·952	1	2	4	4	12	3	4	1	0	103	12	1·90	7
Corsewall	112	46·1	29·933	1	2	2	8	6	8	3	1	0	26	13	2·32	3
Mull of Galloway	325	44·5	29·707	1	0	2	3	6	14	4	1	0	32	10	1·14	0

8.

REPORT ON THE METEOROLOGY OF SCOTLAND during 1905, and of OBSERVERS' NOTES ON THE STATE OF AGRICULTURE, PUBLIC HEALTH, ETC. By ALEXANDER BUCHAN, Meteorological Secretary.

JANUARY 1905.

The month was characterised by a very high mean barometric pressure, a high mean temperature, and a rainfall greatly above the average in the extreme north, but much below it in most districts, and very deficient in the east coast. [*See* Notes on the Numerical Returns of Scottish Meteorology, p. 46 of this *Journal*.]

The maximum *Black-bulb* in the sun was 87°·3, at Braemar, on 30th; and the minimum on grass 12°·0, at Coldstone, on 26th.

Wind.—As regards direction, winds from W were 3 days and from NW 1 day above their average frequency. Very high tides, with a gale from NW, occurred on 6th and 7th, from 14th to 17th strong gales from SE were almost continuous, and on 30th and 31st the weather was very stormy. Nouphead lighthouse, in the Orkneys, reported wind of gale force almost continuously from 1st to 17th.

Fog.—Fog occurred but rarely during the month, though the 22nd was a rather foggy day in the Firth of Forth.

Halos.—*Solar Halos*, at Leith, on 17th. *Lunar Halos*, at Turnberry, on 13th; and at Lednathie, on 25th.

Thunder without Lightning.—At Lochbuie, on 9th.

Lightning without Thunder. — At Fort Augustus, on 4th; at Balta Sound, on 8th; at Buchlyvie, Paisley, Rhuvaal, Devaar, and Pladda, on 11th; at Holbornhead, Rona, and Paisley, on 12th; and at Balta Sound, on 24th.

Thunder with Lightning.—At Poltalloch, on 4th; at Holy Island, on 6th; at Paisley, on 9th; and at Start Point, Glencarron, Edinburgh, and Leith, on 12th.

Auroras.—At Deerness, on 4th; and at Balta Sound, Hellyar Holm, Deerness, and Rattray Head, on 5th.

FEBRUARY 1905.

The month was characterised by a high mean barometric pressure, a high mean temperature, and a rainfall rather deficient in most districts, but much above the average in north and north-west.

The maximum *Black-bulb* in the sun was 108°·0, at Braemar, on 25th; and the minimum on grass 9°·0, at Coldstone, on 23rd.

Wind.—Winds from W were 4 days, from NW 2 days, and from N 1 day above their average frequency, winds from an easterly quarter being very deficient. The weather was very stormy on 18th and 19th, and rather stormy, especially in the west, on 1st and during the last few days of the month.

Fog.—No fog occurred in the Firth of Clyde, but a little was reported from most of the lighthouses elsewhere on 12th and 13th.

Halos.—*Solar Halos*, none reported. *Lunar Halos*, at Inverness, on 13th; at Lednathie and Leith, on 15th; at Balta Sound, on 16th; and at Polkemmet, on 17th, 21st, and 22nd.

Thunder without Lightning.—At Lairg, on 1st; at Drumlanrig, on 2nd; and at Butt of Lewis, on 18th.

Lightning without Thunder. — At Butt of Lewis, Kyleakin, Dhuheartach, and Paisley, on 1st; at Butt of Lewis and Rhuvaal, on 2nd; at Start Point, on 17th; at Cantick Head, Deerness, Pentland Skerries, Fort Augustus, and Rothesay, on 18th; and at Rhuvaal, on 28th.

Thunder with Lightning.—At Holbornhead and Lochbuie, on 2nd; at Paisley, on 11th; and at Sound of Mull and Glasgow, on 18th.

Auroras.—At Balta Sound, on 1st; and at Deerness and Fort Augustus, on 22nd.

MARCH 1905.

The month was characterised by an extremely low barometric pressure, a high mean temperature, and a rainfall much above the average.

The maximum *Black-bulb* in the sun was 110°·1, at Corstorphine, on 19th; and the minimum on grass 13°·0, at Coldstone, on 3rd.

Wind.—As regards direction, there was a remarkable absence of winds from a northerly quarter, whilst winds from SE, S, and SW were each 2 days and those from W 1 day above their average frequency. The weather was stormy in the north on 11th and 12th; whilst on 15th a gale of great severity from S and SSE was experienced on all coasts.

Fog.—Many of the western lighthouses reported no fog during the month, whilst a good deal was reported in the E from 21st to 24th, and a little in the lower Firth of Clyde between the same dates.

Halos. — *Solar Halos*, at Deerness and Paisley, on 3rd; at Paisley, on 13th; and at Deerness, on 20th. *Lunar Halos*, at Inverness, on 14th; at Cargen, on 17th; and at Paisley, Turnberry, and Cargen, on 19th.

Thunder without Lightning.—At Leadhills, on 15th; at Smeaton, on 17th; at Braemar, Logie-Coldstone, Lednathie, Leith, Duns, Marchmont, Broomlands (Kelso), Wolfelee, and Cargen, on 23rd; at Edinburgh, Dalkeith, and Smeaton, on 26th; and at Holy Island, Leith, and Duns, on 28th.

Lightning without Thunder.—At Cargen, on 8th; at Butt of Lewis, on 10th; at Bressay, on 15th; and at Dunfermline, on 24th.

Thunder with Lightning.—At Rothesay, on 10th; at Dumfries and Cargen, on 12th; at Fladda, on 14th; and at Dundee, Perth, Dunfermline, Edinburgh, Leith, Corstorphine, Dalkeith, and Stobo, on 23rd.

Auroras.—At Fort Augustus, Lismore, Rhuvaal, Devaar, and Holy Island, on 2nd; at Balta Sound, on 6th; at Holbornhead, on 7th; at Stourhead, on 14th; and at Balta Sound, on 6th, 9th, 15th, 29th, and 31st.

APRIL 1905.

The month was characterised by a rather low mean barometric pressure, a low mean temperature, and a rainfall above the average in most districts, and falling on a large number of days.

The maximum *Black-bulb* in the sun was 126°·2, at Corstorphine, on 22nd; and the minimum on grass 15°·0, on 3rd, at Coldstone and at Marchmont.

Wind.—As regards direction, winds from NW were 2 days, and from N 1 day above their average frequency, winds from a SW quarter being proportionately deficient. Weather of a wintry character was associated with winds reaching gale-force at many places on 5th, whilst gales occurred in the Orkneys between 11th and 15th.

Fog.—A good deal of fog occurred round the northern coasts between 5th and 10th, and on the east coast rather dense fog between 12th and 16th. On the Isle of May there was no break whatever in the fog throughout the 13th, 14th, and 15th. From 27th onwards, also, a good many of the lighthouses reported rather foggy weather conditions.

Halos.—*Solar Halos*, at Leith, on 8th and 19th. *Lunar Halos*, at Paisley, on 12th.

Thunder without Lightning.—At Cargen, on 13th and 14th; and at Poltalloch, Rothesay, Leadhills, Stobo, Wolfelee, Drumlanrig, and Cargen, on 15th.

Lightning without Thunder.—None reported.

Thunder with Lightning.—At Buchlyvie and Glasgow, on 15th.

Auroras.—At Balta Sound, on 1st, 3rd, and 9th; and at North Ronaldshay, on 2nd.

MAY 1905.

The month was characterised by an extremely high mean barometric pressure, a rather high mean temperature, and a low mean rainfall, the month being on the whole the driest May since 1896.

The maximum *Black-bulb* in the sun was 137°·3, at Corstorphine, on 28th; and the minimum on grass 19°·0, at Coldstone, on 23rd.

Wind.—As regards direction, there was a slight excess of winds from N and NW. Of the numerous lighthouses round the coast, only Cromarty and Stourhead reported wind of gale-force throughout the entire month, the former on 6th, 7th, and 10th, and the latter on 6th.

Fog.—From 13th to 19th, fog was general in the northern islands, and round the coast from Pentland Skerries to Butt of Lewis, several lighthouses, such as Nouphead, Sule Skerry, and North Unst, reporting fog continuously throughout 17th. On the east coast during the same period there was fog of a less dense character; whilst in E and N there was some fog on 1st or 2nd, and in SW some between 27th and 31st.

Halos.—*Solar Halos*, at Deerness and Leith, on 11th; at Leith, on 19th; and at Deerness, on 24th, 25th, and 28th. *Lunar Halos*, at Balta Sound, on 11th.

Thunder without Lightning.—At Stobo, on 13th; and at Start Point, Deerness, and at Hellyar Holm, on 29th.

Lightning without Thunder.—None reported.

Thunder with Lightning.—At Flannan Islands and Fort Augustus, on 31st.

Auroras.—None reported.

JUNE 1905.

The month was characterised by a rather high mean barometric pressure, a high mean temperature, and, as regards rainfall, a most pronounced deficiency, the month being the driest June since 1891.

The maximum *Black-bulb* in the sun was 136°·5, at Braemar, on 30th; and the minimum on grass 23°·2, at Crathes, on 11th.

Wind.—Winds from between NE and SE were of remarkable frequency, but the month was free from any occurrences of strong winds or gales.

Fog.—Hardly any fog occurred in the NW and W throughout the entire month, and practically none anywhere until 14th, except in Shetland, on 1st. But from 14th to 19th, and from 24th to 29th, the E and N were visited by fog, often of a dense character, several lighthouses on 25th reporting an entire absence of visibility throughout the entire twenty-four hours.

Halos.—*Solar Halos*, at Leith, on 9th, 18th, and 27th. *Lunar Halos*, none reported.

Thunder without Lightning.—At Cargen, on 10th; at Rothesay and Leadhills, on 18th; at Stobo, on 19th; at Fort Augustus, Greenock, and Paisley, on 20th; at Glencarron, Braemar, and Loanhead, on 24th; at Glencarron, Inverness, and Fort Augustus, on 25th; at Braemar, Crathes, Montrose, Dundee, Perth, Stronvar, Buchlyvie, Corstorphine, Edinburgh, Dalkeith, Duns, Stobo, Broomlands, and Cargen, on 27th; at Stronvar, Corstorphine, Edinburgh, Leith, Dalkeith, Smeaton, Duns, Marchmont, Stobo, Wolfelee, Drumlanrig, and Cargen, on 28th; at Clathick, Smeaton, and Marchmont, on 29th.

Lightning without Thunder.—None reported.

Thunder with Lightning.—At Cargen, on 9th; at Kinnairdhead and Buchlyvie, on 20th; at Monach, Lairg, Inverness, Fort Augustus, and Kingussie, on 24th; at Deerness and Glenquoich, on 25th; at Drumlanrig, on 26th; at Lairg, Fort Augustus, Loanhead, Tillypronie, Lednathie, Balruddery, Clathick, Leith, Smeaton, Marchmont, and Wolfelee, on 27th; and at Clathick, on 28th.

Auroras.—None reported.

JULY 1905.

The month was characterised by a rather high mean barometric pressure, a high mean temperature, and a low mean rainfall.

The maximum *Black-bulb* in the sun was 139°·0, at Corstorphine, on 18th; and the minimum on grass 30°·0, at Crathes, on 28th.

Wind.—As regards direction, there was a marked deficiency of winds from N and E, those from SW and W being of 5 days more than average frequency. Gales did not occur, and the wind force was, as a rule, moderate.

Fog.—Fog was of fairly frequent occurrence, being reported as follows:—In E and N, on 1st and 2nd; from 10th to 14th on all coasts; and nearly everywhere between 20th and 23rd.

Halos.—*Solar Halos*, at Leith on 11th, 25th, 26th, and 27th. *Lunar Halos*, none reported.

Thunder without Lightning.—At Marchmont, on 1st; at Lairg, Aberdeen, Loanhead, Balruddery, Leadhills, Dalkeith, and Stobo, on 2nd; at Marchmont, on 6th; at Crathes, on 7th; at Duns, on 8th; at Lairg, Glencarron, Glenquoich, Cromarty, Logie - Coldstone, Aberdeen, Arbroath, Perth, Stronvar, Poltalloch, Dalkeith, Smeaton, Marchmont, and Leadhills, on 9th; at Lairg, Loanhead, Logie - Coldstone, Lednathie, Balruddery, Perth, Smeaton, Duns, Marchmont, Leadhills, and Drumlanrig, on 10th; at Loanhead, Leadhills, and Tillypronie, on 11th; at Leadhills, on 12th; at Aberdeen and Drumlanrig, on 16th; at Marchmont, on 17th; at Duns and Broomlands, on 19th; and at Aberdeen, Crathes, and Arbroath, on 20th.

Lightning without Thunder.—At Crathes, on 27th; and at Rattrayhead, on 31st.

Thunder with Lightning.—At Holbornhead, Rattrayhead, Kinnairdhead, Logie-Coldstone, Tillypronie, Crathes, Arbroath, Dundee, Edinburgh, Corstorphine, Leith, Smeaton, Barn's Ness, Duns, Marchmont, Broomlands, and Wolfelee, on 2nd; at Balta Sound, on 4th; at Holbornhead, on 7th; at Dunrobin, Inverness, Fort Augustus, Lochbuie, Airds, Lochindaul, Fladda, Rhuvaal, Lismore, Corran, Kyleakin, Dhuheartach, Skerryvore, Mull of Kintyre, Ardnamurchan, Holbornhead, Rona, Gordon Castle, Kinnairdhead, Lednathie, Buchlyvie, Greenock, Paisley, Glasgow, Bothwell, Edinburgh, Corstorphine, and Leith, on 9th; at Gordon Castle, Inverness, Braemar, Tillypronie, and Montrose, on 10th; at Crathes, on 16th; at Holbornhead, Lairg, Gordon Castle, and Rattrayhead, on 27th; and at Montrose, on 31st.

Auroras.—None reported.

AUGUST 1905.

The month was characterised by a slightly low mean barometric pressure, a rather low mean temperature, and a rainfall of rather irregular distribution, but, on the whole, a little above the average. Around the Clyde Estuary and towards the south-west there was a decided excess.

The maximum *Black-bulb* in the sun was 136°·2, at Edinburgh, on 9th; and the minimum on grass 32°·0, at Corstorphine, on 31st.

Wind.—As regards direction, winds were of almost average distribution. The weather of month was extremely unsettled, and wind force became rather high between 18th and 26th, with gales on the west coast from Ardnamurchan southwards, on 18th and 19th.

Fog.—On the west coast practically no fog was reported, whilst a little was noted elsewhere as follows:—in E and N, on 4th and 5th; in Orkney, on 24th and 25th; and in E, on 27th.

Halos.—*Solar Halos*, at Kirkwall, on 16th. *Lunar Halos*, none reported.

Thunder without Lightning.—At Aberdeen, Leadhills, and Drumlanrig, on 1st; at Clathick, Paisley, and Cargen, on 3rd; at Gordon Castle, Logie-Coldstone, Lednathie, Clathick, Dundee, Balruddery, Duns, Greenock, and Rothesay, on 4th; at Glasgow, on 6th; at Balta Sound, on 8th; at Fort Augustus, Balruddery, Dumfries, and Cargen, on 9th; at Arbroath, Lednathie, Dundee, Corstorphine, Leith, Smeaton, and Wolfelee, on 10th; at Buchlyvie, on 21st; at Loanhead, Aberdeen, and Marchmont, on 22nd; and at Dunrobin and Inverness, on 23rd.

Lightning without Thunder.—At Deerness, on 1st; at Buchlyvie, Marchmont, and Dumfries, on 3rd; at Inverness, Crathes, Montrose, Dundee, Rhuvaal, Buchlyvie, Paisley, and Glasgow, on 4th; at Gordon Castle, on 7th; at Polkemmet, on 10th; at Glasgow, on 21st; and at Lairg, Smeaton, Barn's Ness, and Duns, on 23rd.

Thunder with Lightning.—None reported.

Auroras.—None reported.

SEPTEMBER 1905.

The month was characterised by a slightly high mean barometric pressure, a slightly low mean temperature, and a low mean rainfall, except at some western stations.

The maximum *Black-bulb* in the sun was 128°·6, at Edinburgh, on 12th; and the minimum on grass 22°·0, at Crathes and Coldstone, on 21st.

Wind.—Wind direction was nearly average, there being 1 day's excess of winds from NE. During the first 10 days of the month wind force was high, reaching the strength of a gale in the W between 7th and 10th. A gale occurred in Orkney and Shetland, on 15th and 16th, and in E and N, on 30th.

Fog.—Cape Wrath Lighthouse reported fog from 1st to 5th, as also Barrahead, whilst the weather was foggy in E and N, on 6th and 7th; and in N, on 17th and 18th.

Halos.—*Solar Halos*, at Leith, on 2nd; and at Deerness, on 6th. *Lunar Halos*, at Balta Sound, on 13th and 15th.

Thunder without Lightning.—At Lednathie and Duns, on 5th; at Lednathie, on 6th; and at Braemar and Lednathie, on 7th.

Lightning without Thunder.—At Rhuvaal, on 8th and 9th; and at Rhuvaal and Poltalloch, on 10th.

Thunder with Lightning.—None reported.

Auroras.—At Balta Sound and Stourhead, on 5th; at Balta Sound, Hellyar Holm, and Deerness, on 18th; at Balta Sound, on 19th; at Stourhead, Kyleakin, and Skerryvore, on 20th; at Balta Sound, Deerness, and Stourhead, on 22nd; and at Balta Sound, Deerness, Stourhead, and Skerryvore, on 25th.

OCTOBER 1905.

The month was characterised by an extremely high mean barometric pressure, and a very low mean temperature. The rainfall was rather below the average in many districts, but decidedly in excess in the Moray Firth area and northern counties.

The maximum *Black-bulb* in the sun was 119°·9, at Edinburgh, on 9th; and the minimum on grass 18°·0, at Glasgow, on 20th.

Wind.—There was a remarkable excess of winds from NW and N, these being no less than 7 days more than of average frequency. A gale occurred on all coasts between 4th and 6th, and on nearly all on 26th and 27th, whilst on 31st the weather was very stormy in the north.

Fog.—But little fog was reported, except in Firth of Forth between 9th and 12th, and at Cape Wrath between 8th and 12th.

Halos.—*Solar Halos*, at Paisley, on 1st; and at Leith, on 13th. *Lunar Halos*, none reported.

Thunder without Lightning.—At Duns, on 18th and 30th; and at Duns and Wolfelee, on 31st.

Lightning without Thunder.—At Balruddery, on 30th.

Thunder with Lightning.—At Fair Isle North, on 27th; and at Braemar, Montrose, Arbroath, and Marchmont, on 30th.

Auroras.—At Balta Sound, on 7th, 17th, 23rd, and 24th.

NOVEMBER 1905.

The month was characterised by an extremely low mean barometric pressure, and a low mean temperature. The number of days with rain was large, and the amounts much above the average, especially towards the north-east.

The maximum *Black-bulb* in the sun was 104°·9, at Edinburgh, on 6th; and the minimum on grass 7°·0, at Crathes, on 19th.

Wind.—There was a decided excess of winds from an easterly quarter, these being of 4 days more than average frequency. Montroseness lighthouse reported winds of gale force from 1st to 3rd, continuously from 10th to 14th, on 20th and 27th, and on 29th and 30th. In the west, gales occurred only towards the close of the month, whilst in east and north the weather was stormy from 11th to 13th, on 27th, and on 29th and 30th.

Fog.—Practically no dense fog was reported except in Firth of Forth from 18th to 20th, and in the Upper Moray Firth on 9th.

Halos.—*Solar Halos*, none reported. *Lunar Halos*, at Paisley, on 7th; and at Arbroath, on 9th and 13th.

Thunder without Lightning.—At Aberdeen and Clathick, on 2nd; at Leadhills, on 11th; at Balta Sound, on 15th; at Leadhills, on 23rd; at Deerness and Kirkwall, on 24th; at Leadhills, on 25th, 26th, and 28th; and at Clathick and Glenquoich, on 30th.

Lightning without Thunder.—At Edinburgh and Lochindaul, on 4th; at Hyskier, Tiumpanhead, and Rona, on 24th; and at Fort Augustus, on 30th.

Thunder with Lightning.—At Gordon Castle and at Crathes, on 2nd; at Dunrobin, on 5th; at Clathick, on 15th; at Butt of Lewis, on 24th; at Montrose, on 26th; and at Ardnamurchan, on 30th.

Auroras.—At Fort William, on 4th; at Glasgow, on 14th; at Balta Sound, North Ronaldshay, Nouphead, Hellyar Holm, Deerness, Kirkwall, Holbornhead, Butt of Lewis, Hyskier, Tiumpanhead, Kyleakin, Corran, Fladda, Rhuvaal, Lochindaul, Sound of Mull, Buchlyvie, Rothesay, Paisley, Glasgow, Devaar, Killintringan, Nosshead, Inverness, Gordon Castle, Braemar, Aberdeen, Kinnairdhead, Girdleness, Crathes, Arbroath, Balruddery, Edinburgh, and Duns, on 15th; at Balta Sound, North Ronaldshay, Girdleness, and Braemar, on 16th; at Balta Sound, Girdleness, Fort William, and Lochbuie, on 17th; and at Balta Sound, on 28th.

DECEMBER 1905.

The month was characterised by an extremely high mean barometric pressure, and a notably high mean temperature. As regards rainfall, the month was much the driest December since 1892, some districts having only about one-fifth of their average amounts.

The maximum *Black-bulb* in the sun was 90°·5, at Edinburgh, on 23rd; and the minimum on grass 16°·0, at Coldstone, on 30th.

Wind.—As regards direction, there was a decided excess of winds from a SW quarter, these being of 4 days more than average frequency. A gale was reported at Cape Wrath from 1st to 3rd, and from 6th to 9th, and at various places during the first ten days, during which period the weather was of a rather stormy character. Again on 30th and 31st, the weather was stormy in most districts.

Fog.—The occurrence of fog was unimportant, except in the Firth of Forth, where a good deal was reported on various days between 12th and 27th.

Halos.—*Solar Halos*, none reported. *Lunar Halos*, at Paisley, on 4th; and at Lednathie, on 6th.

Thunder without Lightning.—At Leadhills, on 3rd, 4th, 5th, 6th, 10th, and 11th; and at Lochbuie, on 8th.

Lightning without Thunder.—At Rhuvaal, on 5th; at Fort Augustus, on 6th; at Inverness, Fort Augustus, and Fladda, on 7th; at Kirkwall and Stourhead, on 8th; at Cantickhead, on 9th; and at Balta Sound, on 19th.

Thunder with Lightning.—At Rhuvaal and Lochindaul, on 6th; at North Unst, Balta Sound, North Ronaldshay, Nouphead, Start Point, Kirkwall, Deerness, Butt of Lewis, Ushenish, Kyleakin, Lairg, Glenquoich, Fladda, and Rhuvaal, on 7th; at North Unst, Balta Sound, North Ronaldshay, Nouphead, Kyleakin, Glenquoich, Ardnamurchan, Ushenish, Rhinns of Islay, Lochindaul, Rhuvaal, Poltalloch, Rothesay, Greenock, and Glasgow, on 8th.

Auroras.—At Balta Sound and Butt of Lewis, on 19th; at Balta Sound, on 20th and 28th; at Balta Sound, Stourhead, Hyskier, and at Fort Augustus, on 29th; and at Balta Sound, on 31st.

OBSERVERS' NOTES ON THE STATE OF PUBLIC HEALTH, ETC., DURING 1905.

JANUARY 1905.—HALLIGARTH, BALTA SOUND:—Russian influenza prevailed all through the month. During the last half of the month, measles was very prevalent, and a few cases of phthisis were rapidly getting worse.

DEERNESS:—The month of January was surely the stormiest on record. Gale succeeded gale throughout the month. Barometric pressure varied so much that on three occasions there was a difference of nearly an an inch in 24 hours. On the 6th the gale reached a velocity of 74 miles, on the 16th, 72 miles, and on the 30th, 69 miles.

DUNROBIN:—Month open and mild with occasional wind storms. Very little frost. Keep for stock fairly plentiful except straw, which was short last year.

FEBRUARY 1905.—HALLIGARTH, BALTA SOUND:—Measles, influenza, tonsilitis, prevailed throughout the month, and during the first half catarrhal troubles in epidemic form.

DUNROBIN:—A wet month, with considerable fluctuations of Barometer.

MARCH 1905.—BALTA SOUND:—Measles prevalent during the month and diphtheria the latter half. Frequent occurrence of aurora.

ROTHESAY:—Crocus in full bloom on 16th; daffodil first in bloom on 20th; thorn or quick partly in leaf on 30th; flowering currant in full bloom on 30th; larch showing green on 25th.

DUNROBIN:—Month very wet and inclement, little or no sowing done. Scarcely any heather-burning done. Turnips fairly plentiful in most cases. Very little frost.

APRIL 1905.—BALTA SOUND:—Vegetation very backward, grass hardly springing at all. Lambing commenced April 18th. Lambs being hand fed, as ewes have little milk. Leaf buds of trees and shrubs just opening.

DEERNESS:—The minimum thermometer fell on two successive occasions to 25°, which has not been equalled for 45 years—that is, since a record of minimum temperature has been kept. The most sunless April since 1880. Wet and cold. Not more than half oat-seed sown.

DUNROBIN:—Early part of month wet, with occasional frost. Very little heather burned this season owing to wet spring. Latter half of month more favourable for seed-sowing.

BUCHLYVIE:—Farm and garden work much hindered from saturation of ground. Cuckoo arrived 29th—24 days later than last year.

MAY 1905.—BALTA SOUND:—Rheumatism, pneumonia, and bronchitis prevalent. Phthisical patients worse.

DUNROBIN:—A good month for out-door operations. Crops looking well, and work well advanced.

CRATHES:—There were 21 days without rain. Owing to the dry weather, the seed bed for turnips is in excellent condition. The hay crop is looking well.

JUNE 1905.—BALTA SOUND:—The month has been exceptionally dry, with bright sunshine. No epidemic, and practically no disease among the people.

DEERNESS:—The maximum of 59°·1 is the lowest June maximum reading for 46 years—since observations commenced, and yet temperature was above the mean.

DUNROBIN:—Month dry with easterly winds prevailing. Pastures suffering considerably for want of rain by end of month. Crops on thin or poor soils suffering from drought. Farm stock in good condition. Potatoes on thin soils suffering from drought.

CRATHES:—The lack of rain in May and June has left the hay and cereal crops very short. There has been but few cases of second sowing of turnips, and the young plants on the whole are looking well.

JULY 1905.—**Balta Sound**:—Practically no sickness. Crops looking well. Rye grass first cut on 17th.

Dunrobin:—Early part of month very dry. Crops on thin soils suffering from drought. From 19th to end of month mostly dull, with showers. Crops looking well, except on light lands.

AUGUST 1905.—**Balta Sound**:—Very little sickness in Island of Unst. Crops looking very promising. Plenty of rye grass and meadow hay. Potatoes excellent on the whole. Cabbage and turnips hardly so good as last year. Oats still very green, fairly full, medium length of straw. Strawberry plentiful and of good flavour (where cultivated).

Dunrobin:—Month rather wet and sunless—bad harvesting weather. Farm crops fairly good except on light soils. Small fruits good. Apples a poor crop.

Cargen:—Warm and genial. Harvest operations very general during latter half of month.

SEPTEMBER 1905.—**Balta Sound**:—Influenza and pulmonary troubles prevalent. Crops good, hay and corn plentiful. Some of the oats not cut yet on account of bad weather.

Deerness:—The crops are light on thin land, but a good average crop on better soils. Turnips have suffered much from "finger and toe." Potato crop is inferior.

Cargen:—One of the driest Septembers recorded. Damp, muggy weather during the first half interfered with harvest operations in the earlier districts, but there was splendid harvest weather from 15th to 30th.

OCTOBER 1905.—**Balta Sound**:—Influenza, pneumonia, and gastric and enteric diseases prevalent. Wet and stormy, rain fell on every day of the month. Potatoes have not been taken up yet in many parts of the island, but so far as is known there is no disease. The crops are good, though the oats got terribly shaken and a lot of the seed lost in consequence.

Dunrobin:—A good deal of broken weather, but harvest got in in good condition, a good crop. Potatoes good. Turnips look well in the district.

NOVEMBER 1905.—**Balta Sound**:—Diseases prevalent have been mostly of a catarrhal nature. Though the rainfall has not been very great, there has not been a single day without rain since 27th September.

Dunrobin:—Month very wet.

Buchlyvie:—At the beginning of the month several willow trees were in full bloom.

DECEMBER 1905.—**Dunrobin**:—December was mostly open and mild. Very little frost and no snow. Out-door work well advanced. Keep for farm stock fairly plentiful except straw, which is deficient, particularly on light farms.

RETURNS from STATIONS connected with the MEDICAL DEPARTMENT, and from ADDITIONAL STATIONS in connection with the SOCIETY, during the Year 1905.

STATIONS AND OBSERVERS' NAMES.	Height above Sea-Level.	Months.	BAROMETER.	AIR TEMPERATURE.					HYGROMETER. Mean at 9 a.m. and 9 p.m.				CLOUD.	RAIN.				WIND DIRECTION. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCES. Scale of 0-12.
			Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean Max. A.	Mean Min. B.	Mean of A and B.	Highest.	Lowest.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.	Scale 0-10.	No. of Days.	Total Fall.	Most in a Day. Amount	Most in a Day. Day of Month.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	
	ft.	1905		in.	in.	in.	in.	in.	°	•	°				in.	in.											
BALTASOUND (Hallgarth), (Shetland.) Dr. T. EDMONDSTON SAXBY.	50	Jan.	...	42·4	34·7	38·6	49·5	23·0	...	...	...	...	8·0	27	4·84	0·57	10	4	1	2	5	5	21	12	12	0	4·5
		Feb.	...	42·8	34·0	38·4	48·9	20·5	...	...	...	...	7·8	26	5·12	0·61	28	7	4	1	5	4	9	16	10	0	3·6
		Mar.	...	45·5	38·8	42·2	48·5	33·0	...	...	...	...	7·6	28	2·58	0·34	12	1	7	4	18	16	6	7	3	0	4·1
		Apr.	...	43·0	34·0	38·5	48·5	22·5	...	...	...	...	8·0	27	3·21	0·59	28	9	14	9	6	6	6	4	6	0	3·7
		May	...	50·9	41·6	46·2	61·5	34·5	...	...	...	...	7·7	26	1·93	0·22	28	6	11	7	2	1	13	17	5	0	3·3
		June	...	57·1	47·3	52·2	68·0	41·0	...	...	...	...	7·4	13	1·35	0·38	19	2	19	7	12	6	8	4	2	0	2·6
		July	...	58·6	49·9	54·2	63·0	45·0	...	...	...	...	8·2	25	2·85	0·73	29	5	7	3	3	9	7	22	6	0	2·9
		Aug.	...	58·5	48·7	53·6	64·5	40·0	...	...	...	...	7·7	29	3·49	0·68	17	7	13	6	4	7	5	14	6	0	3·4
		Sept.	...	55·4	46·2	50·8	62·2	37·5	...	...	...	...	6·5	22	1·90	0·25	8	5	8	3	9	5	15	5	10	0	3·5
		Oct.	...	46·1	39·3	42·7	53·0	33·0	...	...	...	...	7·2	31	4·53	0·53	3	23	10	6	1	1	3	8	10	0	3·3
		Nov.	...	44·5	38·3	41·4	50·0	30·5	...	...	...	...	6·8	30	5·09	0·70	5	9	6	9	7	5	11	10	3	0	3·2
		Dec.	...	45·7	39·2	42·5	52·5	31·2	...	...	...	...	7·0	26	3·39	0·50	1	2	0	6	0	11	15	20	8	0	3·6
		1905																									
COLDSTONE, SCHOOLHOUSE, (Aberdeen.) J. B. ANDERSON.	608	Jan.	...	44·3	33·3	38·8	56·0	22·5	38·2	1·8	·195	85	...	17	1·07	0·18	3	1	0	0	5	15	7	12	16	6	2·6
		Feb.	...	42·9	31·7	37·3	55·0	17·0	36·5	1·7	·184	85	...	18	1·89	0·34	28	0	0	0	1	0	5	14	22	14	2·0
		Mar.	...	45·9	33·3	39·6	54·0	23·0	38·0	1·8	·194	85	...	22	3·37	0·47	25	1	0	1	2	11	4	12	13	18	1·3
		Apr.	...	45·2	32·9	39·0	57·0	22·5	38·3	1·3	·205	89	...	23	2·98	0·50	14	5	0	2	9	3	0	3	26	12	1·3
		May	...	56·6	39·9	48·3	73·0	28·0	47·2	2·4	·269	84	...	13	1·42	0·36	26	9	1	0	0	2	13	6	12	19	1·0
		June	...	65·2	45·1	55·2	80·0	31·0	53·8	2·4	·348	84	...	10	1·57	0·50	15	1	0	2	3	1	9	3	7	34	0·8
		July	...	65·8	48·1	57·0	75·0	39·0	55·6	2·4	·375	84	...	18	4·47	1·54	20	0	0	0	2	0	2	32	9	17	0·8
		Aug.	...	60·4	47·6	54·0	67·0	39·0	52·5	2·2	·336	84	...	24	4·40	0·93	3	5	3	2	4	0	3	18	13	14	1·3
		Sept.	...	57·3	44·0	50·6	66·5	28·0	49·7	2·1	·304	86	...	15	1·85	0·48	26	10	0	0	6	3	8	14	7	12	1·4
		Oct.	...	47·2	37·4	42·3	63·0	31·0	41·0	1·6	·223	87	...	29	3·86	0·45	31	0	1	0	1	3	1	2	40	14	1·5
		Nov.	...	41·8	32·5	36·7	52·0	8·0	36·8	1·0	·198	92	...	22	6·68	1·14	11	5	3	1	10	8	2	7	12	12	0·9
		Dec.	...	44·4	34·7	39·6	53·0	18·0	39·6	1·8	·208	84	...	14	0·65	0·10	10, 17	0	0	0	0	12	5	24	2	19	1·0
		1905																									
HELENSBURGH II., (Dumbarton.) J. R. WILSON, Waterworks.	300	Jan.	...	44·3	35·6	40·0	50·0	27·0	39·6	1·4	·215	89	...	22	2·90	0·32	17	...	...	...	...	...	...	...	...	...	...
		Feb.	...	44·8	34·1	39·4	50·3	25·0	38·0	1·2	·204	89	...	19	2·07	0·49	18	...	...	...	...	...	...	...	...	...	...
		Mar.	...	47·7	36·4	42·0	56·8	28·8	40·7	1·4	·224	88	...	24	3·95	0·57	25	...	...	...	...	...	...	...	...	...	...
		Apr.	...	48·9	35·3	42·1	54·0	24·2	41·7	2·0	·223	86	...	21	2·90	0·98	1	...	...	...	...	...	...	...	...	...	...
		May	...	57·3	42·8	50·0	71·2	35·2	49·5	2·4	·294	84	...	13	2·19	0·63	26	...	...	...	...	...	...	...	...	...	...
		June	...	65·4	48·1	56·8	79·5	39·2	55·6	2·9	·362	81	...	7	0·86	0·22	18	...	...	...	...	...	...	...	...	...	...

		1905																								
		July	...	66 2	52·1	59·2	74·0	44·0	58·1	2·5	·409	84	...	28	8·00	0·79	29	...	...	...	...	...	...	...	...	...	...
		Aug.	...	61·9	49·7	55·8	67·2	42·5	54·9	1·9	·376	88	...	20	4·94	0·89	4	...	...	...	...	...	...	...	...	...	...
		Sept.	...	59·4	46·6	53·0	64·1	36·8	51·9	1·7	·343	88	...	20	2·26	0·45	1	...	...	...	...	...	...	...	...	...	...
		Oct.	...	51·2	36·8	44·0	58·2	25·2	43·2	2·0	·286	85	...	17	4·34	1·08	3	...	...	...	...	...	...	...	...	...	...
		Nov.	...	45·2	35·7	40·4	51·3	22·0	39·0	0·8	·222	94	...	19	4·60	0·61	10	...	...	...	...	...	...	...	...	...	...
		Dec.	...	46·0	39·7	42·8	51·1	29·0	42·3	1·3	·242	90	...	24	3·88	0·68	24	...	...	...	...	...	...	...	...	...	...
		1905																								
LISSAN, (Tyrone.)	305	Jan.	...	44·8	35·8	40·3	51·0	27·0	40·7	1·3	·226	89	...	25	3·10	0·40	5	2	0	7	1	3	2	41	6	0	2·4
J. H. Staples.		Feb.	...	45·9	34·6	40·3	51·0	26·0	39·8	1·4	·217	89	...	23	2·96	0·64	26	10	0	3	0	1	0	33	9	0	2·0
		Mar.	...	48·4	35·0	41·7	56·0	28·0	40·9	1·6	·222	87	...	29	4·75	0·57	23	4	3	2	0	2	0	41	10	0	1·8
		Apr.	...	50·3	37·8	44·1	57·0	26·0	44·3	2·7	·233	79	...	20	2·10	0·35	6	10	6	18	3	0	1	21	1	0	2 3
		May	...	60·7	42·4	51·6	74·0	32·0	51·2	3·6	·288	77	...	12	1·75	0·61	28	14	1	15	3	4	4	18	3	0	1·3
		June	...	65·9	50·1	58·0	79·0	41·0	57·4	3·9	·360	76	...	12	3·13	0·97	19	5	1	22	7	7	0	17	1	0	1·8
		July	...	68·0	51·0	59·5	77·0	41·0	59 4	2·8	·420	82	...	19	2·30	0·56	28	4	1	2	0	0	4	48	3	0	1·4
		Aug.	...	62·6	48·2	55·4	69·0	40·0	55·5	2·5	·370	84	...	23	5·84	1·50	25	12	0	5	0	5	0	40	0	0	1·6
		Sept.	...	59·5	45·6	52·6	67·0	34·0	51·9	1·9	·336	87	...	20	2·06	0·47	6	6	0	16	1	0	0	36	1	0	1·4
		Oct.	...	52·0	38·8	45·4	65·0	29·0	45·2	1·8	·260	87	...	16	1·89	0·39	3	19	0	5	1	6	0	25	6	0	1·3
		Nov.	...	46·3	34·2	40·2	52·0	22·0	39·2	1·0	·220	92	...	28	3·93	0·90	25	19	4	14	2	3	1	14	8	0	1·3
		Dec.	...	46·7	39·1	42·9	52·0	29·0	42·1	1·1	·244	91	...	22	3·08	0·65	5	0	0	17	2	3	7	31	2	0	1·6
		1905																								
HEBRON, (Palestine)	2900	Jan.	27·050	49·2	35·0	42·1	64·6	24·9	40·2	1·6	·216	88	4·0	11	2·39	0·90	6	2	9	2	6	3	1	26	12	1	3·1
Lat. 31° 31′ N. Long. 35° 8′ E.		Feb.	27·055	50·0	33·8	41·9	62·5	28·7	41·2	1·6	·225	88	5·2	13	4·79	1·67	9	3	1	1	13	4	1	23	10	0	3·3
Dr. Alexander Paterson.		Mar.	26·930	57·0	39·3	48·2	77·0	32·0	47·9	3·1	·262	80	6·5	14	5·38	1·44	21	3	4	2	8	6	0	24	15	0	3·9
		Apr.	26·995	70·8	46·6	58·7	93·5	34·9	58·6	7·6	·291	59	3·4	2	0·87	0·55	1	2	0	5	7	5	5	20	15	3	3·2
		May	26·978	81·3	52·5	66·9	99·0	36·0	65·6	11·6	·302	49	...	0	0 00	...	...	8	1	0	13	7	8	12	12	1	3·2
		June	26·967	80·7	54·5	67·6	94·5	48·0	66·8	7·6	·405	62	...	1	0·05	0·05	12	3	0	1	1	4	1	22	28	0	3·2
(Observations taken at 8 A.M.		July	26·896	86 2	57·0	71·6	90·8	51·2	72·3	9·3	·451	56	1·5	0	0·00	...	...	13	1	1	0	0	0	6	40	1	3·0
and 7 P.M.)		Aug.	26·893	87·9	58·6	78·2	98·8	50·0	73·0	8·7	·481	59	0·5	0	0·00	...	...	18	0	0	0	1	1	1	41	0	3·4
		Sept.	26·952	86·0	55·8	70·9	90 2	47·2	70·8	9·5	·419	55	0·9	0	0·00	...	...	11	3	0	3	6	0	2	37	0	3·0
		Oct.	27·051	81·4	54·4	67·9	95·0	45·2	67·3	8 5	·389	58	3·4	3	1·10	0·69	24	10	2	3	9	1	0	12	25	0	2·8
		Nov.	27·124	74·3	47·8	61·0	82·0	41·0	59·2	7·8	·293	58	2·3	0	0·00	...	...	6	8	8	7	3	1	9	18	0	2·4
		Dec.	27·040	53·1	37·5	45·3	72·4	25·5	48·6	2·3	·284	82	...	14	14·05	3·58	15	2	5	2	9	1	8	18	22	0	3·5
		1905																								
CHRISTMAS ISLAND,	18	Jan.	29 880	88·0	71·9	80·0	91·2	67·9	76·6	3·8	·738	81	2·3	3	0·10	0·05	15	0	1	2	14	15	8	3	0	19	1·6
Lat. 10° 25′ S. Long. 105° 43′ E.		Feb.	29·834	88·1	73·9	81 0	92·8	72·4	78·6	3·6	·800	81	3·2	11	5·79	3·05	16	1	0	0	6	6	8	8	8	19	1·8
W. S. Anderson, F.C S.		Mar.	29·864	89·5	76·1	82·8	92·3	73·5	80·1	2·3	·904	88	4·4	19	3·62	0·89	19	1	0	21	6	0	1	1	0	32	1·3
		Apr.	29·849	87·8	76·3	82·0	91·4	75·2	79·2	1·6	·913	92	5·0	25	11·87	3·07	28	11	5	8	18	0	0	2	5	11	2·9
		May	29·822	87·9	75·5	81·7	90·4	78·0	79·0	2·4	·868	88	4·2	11	6·83	1·93	28	2	1	18	19	0	2	2	7	11	2·7
		June	29 857	87·7	74·7	81·2	90·0	72·4	78·1	2·6	·832	86	3·6	19	3·74	1·27	20	0	0	15	38	0	0	0	0	7	2·1
		July	29·886	85·9	73·0	79·4	89·2	69·4	76·9	3·3	·768	82	4·0	15	7·85	4·15	11	0	1	18	37	0	0	0	0	6	2·3
		Aug.	29·910	85·9	72·1	79·0	88·8	68·0	76·8	4·7	·704	76	3·6	13	1·08	0·32	31	0	0	5	40	0	0	0	0	17	1·9
		Sept.	29·907	85·7	72·6	79·2	88·1	68·8	77·7	4·7	·727	76	4·3	7	3·12	2·15	9	3	3	4	31	0	0	0	0	19	1·6
		Oct.	29·897	87·8	73·2	80·5	89 6	70·0	78·5	6·0	·694	71	3·2	7	0·26	0·09	16	0	0	19	26	0	0	0	0	17	1·6
		Nov.	29·908	88 5	74·1	81·3	91·6	70·7	79·5	5·2	·757	74	3·3	10	11·78	3·48	18	0	0	29	8	0	0	0	0	23	1·4
		Dec.	29·841	89 4	75·3	82·3	91·8	72·7	79·9	3·9	·880	80	3·8	9	4·62	3·00	27	0	0	15	12	0	0	0	0	35	0·9

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 31st MARCH 1905.

By Dr Buchan, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 58 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N.; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1905.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %.	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
Jan.	30·027	44·4	34·5	39·5	57·0	15·0	39·6	2·1	·203	83	16	2·40	6·7	*
Feb.	29·949	44·7	33·7	39·2	57·3	11·1	38·6	2·0	·196	84	17	2·77	6·5	*
Mar.	29·544	47·8	35·9	41·9	64·7	16·4	41·1	2·0	·216	84	22	4·14	6·7	*

1905.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
Jan.	38·0	38·5	39·1	39·1	41·4	2	1	4	6	7	13	19	8	2	3·4	6	1
Feb.	37·5	38·7	39·3	38·8	40·2	6	2	2	2	3	11	18	10	2	2·9	4	1
Mar.	39·9	40·7	40·7	39·9	40·9	3	2	5	7	10	15	13	5	2	2·6	21	1

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these returns are compared with the averages for 1856–1905, during the same months, they show the following characteristics and differences :—

JANUARY 1905—

Mean Barometric Pressure, 30·027 inches ; greater than the average of 1856–1905 by 0·224 inch.
Mean Temperature, 39°·5 ; greater by 2°·2.
Mean Daily Range of Temperature, 9°·9 ; greater by 0°·7.
Mean Humidity, 83 per cent. ; less by 4 per cent.
Rain, Number of Days, 16 ; less by 1 day.
Rain, Depth in Inches, 2·40 ; less by 1·44 inch.
Wind, Mean Force (on Scale of 0–12), 3·4 ; greater by 0·5.
Wind, Direction of : a 3 days' excess of winds from W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·7 ; being the average.

FEBRUARY 1905—

Mean Barometric Pressure, 29·949 inches ; greater than the average of 1856–1905 by 0·103 inch.
Mean Temperature, 39°·2 ; greater by 1°·0.
Mean Daily Range of Temperature, 11°·0 ; greater by 0°·8.
Mean Humidity, 84 per cent. ; less by 3 per cent.
Rain, Number of Days, 17 ; greater by 2 days.
Rain, Depth in Inches, 2·77 ; less by 0·30 inch.
Wind, Mean Force (on Scale of 0–12), 2·9 ; being the average.
Wind, Direction of : an excess of 4 days from W, of 2 days from N.W., and of 1 day from N.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·5 ; being the average.

MARCH 1905—

Mean Barometric Pressure, 29·544 inches; less than the average of 1856–1905 by 0·265 inch.
Mean Temperature, 41°·9; greater by 2°·3.
Mean Daily Range of Temperature, 11°·9; less by 0°·2.
Mean Humidity, 84 per cent.; less by 1 per cent.
Rain, Number of Days, 22; greater by 6 days.
Rain, Depth in Inches, 4·14; greater by 1·23 inch.
Wind, Mean Force (on Scale of 0–12), 2·6; less by 0·3.
Wind, Direction of: a 7 days' excess of winds from between S.E. and W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·7; greater by 0·4.

JANUARY 1905—

Hence the month of JANUARY 1905 was characterised by a very high mean barometric pressure; a high mean temperature, with a slightly high mean daily range; a low mean humidity; an extremely low mean rainfall, with one less than the average number of rainy days; a considerable excess of strong winds from W.

The mean barometric pressure was 30·027 inches, or 0·224 inch above the normal. On 16th and 17th a very deep depression occurred, minor ones passing earlier in the month and on 30th. From 18th to 31st the barometer was unusually high, except during a rapid fall on 30th. The monthly range was large, the sea-level extremes at Leith being 30·750 inches at 9 p.m. on 28th, and 28·951 inches at 9 a.m. on 17th.

The mean temperature was 39°·5, or 2°·2 above the normal, the days being 2°·5 and the nights 1°·8 above their respective averages. In all districts the month was decidedly warmer than usual, being on the whole the mildest January since 1898. Very mild weather was experienced during the first few days, the mean temperature of the first week being at many places 6°·0 or 7°·0 above the normal. Highest readings for the month occurred at most stations between 4th and 8th, generally on the 6th; but at a few on 28th or 30th. Frosts occurred about 10th, 17th, 21st, and 26th, but were never severe or prolonged. Lowest temperatures were generally recorded on night of 16th. In the latter part of the month, temperature in Scotland was, as a rule, notably higher than that in England. Thus, during the third week the mean temperature of Aberdeen was nearly 5°·0 above that of London, and during the fourth week the nights at Braemar were 4°·0 warmer than those at Bath. The absolute maximum was 57°·0 at Airds on 9th, and the minimum 15°·0 at Leadhills on 17th.

The mean rainfall was 2·40 inches, or 38 per cent. below the normal. In Orkney and Shetland, at Stornoway, and, on the mainland, at Dunrobin, Lairg, and Glencarron, rainfall was much above the average, the excess at Lairg amounting to nearly 70 per cent.; whilst in the greater part of Inverness-shire about the average amount was recorded. Elsewhere there was a decided shortage, more pronounced in the East than in the West. Thus, of the Eastern stations, some had aggregates of less than half an inch; several, such as Arbroath, Dundee, and Duns, less than one-fifth of their normal rainfalls; and many others only from one quarter to one half. The greater part of the month's rainfall was registered before the 12th, and rainy spells occurred also about the 17th, 23rd, and 30th. On the East Coast, however, but little rain fell after 17th.

A N.W. gale, with very high tides, occurred on 6th and 7th; from 14th to 17th strong and destructive Southerly to Easterly gales were almost continuous; and on the night of the 30th the weather was again stormy.

Snow in most districts about 9th and 16th.

Thunder at Lochbuie, Rothesay, and Paisley on 9th; and at Glencarron, Edinburgh, and Leith on 12th.

Bright sunshine deficient in Orkney; but about or above the average in other districts.

A fine display of Aurora observed in Orkney and Shetland on 5th.

FEBRUARY 1905—

Hence the month of FEBRUARY 1905 was characterised by a high mean barometric pressure; a high mean temperature, with a rather high mean daily range; a low mean humidity; a slightly low mean rainfall, with 2 more than the average number of rainy days; a large excess of winds of average force from W. and N.W.

The mean barometric pressure was 29·949 inches, or 0·103 inch above the normal. The Leith barometer at sea-level was above 30 inches from 3rd to 5th, from 7th to 15th, and from 20th to 23rd, the extremes there being 30·699 inches on 21st and 28·689 inches on 27th: on 26th and 27th the barometer remained continuously below 29 inches.

The mean temperature was 39°·2, or 1°·0 above the normal, the days being 1°·4 and the nights 0°·6 above their respective averages. Temperature was 0°·6 below the average at Fort Augustus, but in most districts the mean of the month was high, most of

[*Continued on page* 58.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	Jan.	29·501	...	...	...	...	...	...	...	...	38·9	...	...	...
		Feb.	29·455	...	...	...	...	...	...	...	...	39·0	...	...	...
		Mar.	29·248	...	...	...	...	...	...	...	...	41·8	...	...	...
LERWICK, (Shetland.) Capt. G. Allison, Harbour Master.	30	Jan.	29·773	44·7	35·9	40·3	+0·3	48·0	2	26·0	10	40·6	1·9	·214	86
		Feb.	29·716	43·7	35·2	39·5	−0·3	48·0	15	22·0	11, 12	38·7	1·7	·202	86
		Mar.	29·455	44·7	39·7	42·2	+2·8	48·0	19	34·0	2	42·1	1·9	·228	85
DEERNESS, (Orkney.) M. Spence, Schoolhouse.	172	Jan.	29·685	44·8	36·4	40·6	+2·0	49·8	28	28·2	10	40·8	1·8	·217	86
		Feb.	29·624	43·3	34·4	38·8	+0·3	51·8	18	23·0	11, 12	38·5	1·6	·201	87
		Mar.	29·286	44·9	38·1	41·5	+2·8	48·0	20, 29	32·2	9	41·6	1·4	·233	90
KIRKWALL, (Orkney.) J. S. Begg, S.S.C.	30	Jan.	29·838	45·3	36·8	41·1	+1·8	51·0	2	28·0	10	41·5	1·8	·225	87
		Feb.	29·786	44·1	34·7	39·4	+0·3	51·0	6	23·0	12	40·0	1·7	·213	86
		Mar.	29·445	45·9	38·0	42·0	+2·3	51·0	22, 30	33·0	10	42·2	1·7	·233	88
DUNROBIN, (Sutherland.) D. Melville, Gardener, Dunrobin Castle.	16	Jan.	29·896	45·7	35·0	40·4	+2·1	54·5	8	26·5	10, 26	40·2	2·4	·211	81
		Feb.	29·862	44·6	33·7	39·2	+0·8	54·0	18	24·5	12	38·2	1·8	·195	85
		Mar.	29·466	46·4	35·9	41·2	+1·0	55·5	31	30·0	10	40·9	1·9	·216	85
LAIRG, (Sutherland.) Rev. John K. Maclean.	390	Jan.	29·478	45·1	33·3	39·2	+2·9	52·0	8	20·0	26	38·7	2·0	·197	85
		Feb.	29·443	42·9	30·6	36·8	+0·6	52·2	18	15·0	23	36·2	1·3	·189	89
		Mar.	29·046	47·5	34·2	40·8	+2·1	54·4	19	27·0	18	39·8	1·8	·209	86
GLENCARRON, (Ross.) D. D. Munro.	504	Jan.	29·434	45·1	34·9	40·0	+2·7	55·0	15	26·0	26	40·3	2·2	·206	83
		Feb.	29·366	42·3	32·2	37·3	+0·2	49·0	8, 18	19·5	24	37·0	1·5	·191	87
		Mar.	28·942	46·5	35·1	40·8	+2·5	59·0	22	30·5	3	40·0	2·0	·207	84
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	Jan.	29·746	...	...	...	...	...	...	...	...	42·8	...	...	...
		Feb.	29·742	...	...	...	...	...	...	...	...	41·1	...	...	...
		Mar.	29·282	...	...	...	...	...	...	...	...	42·2	...	...	...
KINGUSSIE, (Inverness.) Dr Walter de Watteville.	828	Jan.	29·088	42·7	32·1	37·4	+2·7	49·7	30	21·4	26	37·8	2·2	·186	82
		Feb.	29·021	42·0	29·8	35·9	+0·7	52·6	18	11·1	22	35·6	1·8	·176	84
		Mar.	28·626	44·6	32·8	38·7	+2·0	50·0	23	18·1	3	38·2	2·0	·192	84
INVERNESS, (Inverness.) Thos. Wallace, High School.	114	Jan.	29·845	46·5	36·8	41·6	+3·1	52·7	28	28·8	21	41·4	2·9	·203	79
		Feb.	29·802	44·4	34·5	39·4	+0·4	53·9	5	24·0	24	39·0	2·1	·197	83
		Mar.	29·383	48·6	36·9	42·8	+2·0	57·4	22	28·8	3	41·8	2·3	·219	83
FORT AUGUSTUS, (Inverness.) Rev. Cyril von Dieckhoff, St Benedict's Priory.	73	Jan.	29·910	45·3	35·7	40·5	+2·5	51·1	6	26·5	26	41·0	2·2	·211	83
		Feb.	29·860	42·8	33·3	38·1	−0·6	51·2	5	20·5	23	37·7	1·8	·192	84
		Mar.	29·412	46·8	35·2	41·0	+2·1	58·0	22	22·7	3	40·6	2·4	·223	89
GORDON CASTLE, (Banff.) C. Webster, Gardener to the Duke of Richmond and Gordon.	107	Jan.	29·847	45·8	35·4	40·6	+2·7	55·3	30	26·5	22	40·8	3·0	·196	77
		Feb.	29·792	45·3	33·6	39·4	+1·1	55·2	5	25·5	3	39·2	2·5	·192	80
		Mar.	29·396	48·5	35·3	41·9	+1·8	59·0	22	28·5	3	41·2	2·3	·212	82
BRAEMAR, (Aberdeen.) James Aitken, Banker.	1114	Jan.	28·766	41·3	31·6	36·4	+2·6	49·2	30	19·2	19	36·8	2·0	·181	83
		Feb.	28·708	40·8	29·5	35·2	+1·0	50·7	5	12·3	22	35·1	1·9	·167	81
		Mar.	28·323	43·7	32·2	38·0	+2·5	53·0	22	16·4	3	37·3	2·0	·184	83
LOANHEAD, (Aberdeen.) Alex. Farquharson.	747	Jan.	29·160	43·9	32·5	38·2	+2·3	52·8	28	22·4	26	38·7	2·0	·197	85
		Feb.	29·100	43·4	31·3	37·3	+1·3	55·0	18	19·8	23	37·7	2·0	·189	83
		Mar.	28·724	46·7	33·4	40·0	+2·5	55·0	22	22·3	3	39·1	1·5	·209	88
TILLYPRONIE, (Aberdeen.) Robt. Littlejohn, Gardener to Sir John F. Clark, Bt.	1120	Jan.	28·754	43·5	30·8	37·1	+2·3	53·0	28, 30	21·5	26	36·6	2·0	·180	83
		Feb.	28·689	42·9	29·7	36·3	+1·3	53·5	18	18·3	12	35·7	1·6	·180	85
		Mar.	28·323	45·3	32·0	38·6	+2·1	53·0	22	27·0	3	37·2	1·8	·187	84

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
				Most in a day.																		
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Amount.	Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
9·8	22	...	...	...	...	6	0	0	0	30	1	7	9	0	2	7	12	13	12	7	0	6·2
8·7	20	...	...	...	...	5	0	0	0	16	0	4	5	0	1	4	6	14	12	14	0	5·0
8·5	17	...	...	...	...	0	0	0	1	21	2	3	5	2	3	16	19	7	6	2	2	4·0
...	23	5·43	...	0·83	10	4	0	0	...	...	0	11	10	1	2	4	13	11	11	10	0	5·9
...	20	3·44	...	0·33	3	6	0	0	...	...	0	3	13	0	2	1	9	14	9	8	0	5·3
...	17	2·81	...	0·43	7	0	0	0	...	...	0	5	5	1	8	4	34	5	3	2	0	4·8
7·2	20	3·78	+ 0·68	0·43	31	4	4	0	2	15	0	19	3	0	1	3	18	6	25	6	0	7·7
6·7	20	4·32	+ 1·47	0·56	3	6	5	0	4	12	1	15	8	1	1	3	10	10	15	8	0	6·4
7·2	19	2·80	+ 0·22	0·55	9	1	0	0	0	13	2	12	4	2	4	11	20	8	5	6	2	5·8
...	20	3·87	− 0·08	0·65	10	...	...	...	...	...	...	...	2	0	2	6	14	6	24	8	0	6·2
...	19	4·79	+ 1·41	0·72	3	...	...	...	...	...	...	...	6	0	0	2	8	4	22	14	0	5·3
...	21	3·36	+ 0·03	0·50	29	...	...	...	...	...	...	4	6	0	4	16	20	2	12	2	0	4·4
...	14	3·38	+ 0·70	0·65	11	1	0	0	...	...	0	3	6	1	1	7	7	13	12	15	0	2·4
...	19	3·73	+ 0·99	0·50	3	5	0	0	...	...	0	1	13	3	0	4	3	2	15	16	0	3·1
...	17	4·41	+ 2·04	1·58	11	1	0	0	...	...	0	1	3	8	7	9	10	4	12	9	0	2·0
7·0	23	5·61	+ 2·27	0·90	10	5	0	0	3	13	0	6	0	0	3	10	1	3	28	10	7	3·2
7·0	24	5·31	+ 2·35	0·81	2	10	0	1	2	14	1	1	4	0	0	7	0	1	27	10	7	2·4
7·1	25	3·65	+ 0·71	1·10	11	1	0	0	0	12	0	1	6	1	6	14	4	0	16	7	8	2·3
7·7	23	13·39	+ 3·56	1·40	10	...	...	1	1	19	0	5	8	1	8	0	0	0	43	0	2	4·7
7·8	25	10·71	+ 3·27	1·38	3	4	0	0	3	20	0	3	8	0	6	0	0	0	39	0	3	4·6
8·1	28	8·36	+ 0·56	1·39	11	...	...	0	1	15	0	1	11	0	14	0	0	0	36	0	1	3·1
8·9	24	3·49	− 1·71	0·34	24	4	0	0	1	22	2	10	0	0	0	4	14	9	22	13	0	5·8
8·6	21	4·84	+ 0·88	0·72	26	7	1	0	0	18	1	6	8	0	0	1	7	10	21	9	0	4·9
7·0	27	6·49	+ 2·82	0·68	28	4	1	0	0	12	0	1	3	3	3	6	18	7	13	9	0	3·8
7·2	17	2·45	+ 0·14	0·50	3	3	0	0	0	10	...	...	...	...	...	...	...	...	...	...	...	...
7·0	20	3·15	+ 1·09	0·52	25	4	0	0	2	14	...	...	...	...	...	...	...	...	...	...	...	...
7·2	25	3·60	+ 1·60	0·56	23	1	0	0	0	9	...	...	...	...	...	...	...	...	...	...	...	...
6·5	17	1·87	− 0·59	0·30	8	4	1	0	4	9	4	9	1	0	0	8	3	20	29	6	0	3·3
6·5	16	2·59	+ 0·55	0·39	1	11	2	0	3	11	4	4	3	2	0	0	0	18	27	6	0	2·7
7·1	22	2·85	+ 0·88	0·76	11	4	2	0	0	13	2	1	1	4	2	1	4	25	20	5	0	1·8
6·7	21	5·32	− 0·06	0·80	8	4	0	0	2	7	0	7	1	1	0	4	16	28	2	3	7	3·3
6·3	21	5·65	+ 1·31	0·83	16	9	2	0	5	8	0	6	4	0	1	0	2	27	1	2	19	3·0
6·9	24	4·55	+ 1·27	0·48	9	...	...	...	1	11	...	1	1	4	11	3	8	25	2	0	18	1·9
6·3	14	1·47	− 0·58	0·29	5	0	0	0	3	9	0	2	0	0	1	10	15	27	8	1	0	2·3
6·8	17	1·97	− 0·04	0·47	2	7	0	0	2	11	0	1	0	0	0	9	2	29	8	8	0	1·7
7·6	20	3·66	+ 1·50	0·79	11	1	0	0	0	14	0	0	1	2	0	19	12	23	4	1	0	1·6
7·4	16	1·61	− 1·48	0·26	7	2	0	0	0	9	0	3	0	1	0	4	0	46	0	11	0	2·2
7·2	15	2·36	− 0·40	0·38	2	8	0	0	1	15	0	1	13	0	0	0	1	25	6	11	0	2·0
7·0	22	4·89	+ 2·30	1·27	15	4	0	1	0	9	0	1	5	0	0	4	1	43	5	4	0	1·1
...	13	0·84	− 1·08	0·19	3	2	0	0	...	...	0	3	1	2	1	12	4	10	8	20	4	1·7
...	17	2·07	− 0·08	0·66	28	12	0	0	...	...	0	2	0	2	0	6	0	4	17	17	10	1·8
6·7	20	3·61	+ 1·37	0·52	23	3	0	1	2	12	0	0	0	7	0	15	1	3	13	8	15	1·3
6·3	13	1·08	− 0·84	0·25	4	6	0	0	0	7	4	4	13	0	0	12	1	12	10	14	0	2·2
7·3	19	1·77	− 0·34	0·37	28	3	0	0	1	13	1	6	15	1	0	8	0	15	7	10	0	3·0
7·2	21	2·79	+ 0·52	0·46	23	5	0	0	0	11	6	3	9	1	0	17	1	19	2	13	0	2·8

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905. Months.	BAROMETER. Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	AIR TEMPERATURE. Mean of A. Maximum.	Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
ABERDEEN, (Aberdeen.) Peter Harper, Superintendent, Duthie Park.	44	Jan. Feb. Mar.	29·958 29·872 29·489	44·1 45·0 47·3	34·7 33·2 34·9	39·4 39·1 41·1	+2·0 +1·0 +1·1	55·0 57·0 55·0	30 5 30	25·0 21·6 28·0	19 23 3	38·8 38·2 40·4	2·3 2·2 1·6	·192 ·188 ·218	82 82 87
PETERHEAD, (Aberdeen.) Dr W. H. M'Walter, H.M. Prison.	100	Jan. Feb. Mar.	29·846 29·779 29·415	45·1 44·0 45·7	34·8 33·5 36·5	39·9 38·8 41·1	+1·0 +0·0 +0·7	53·0 55·0 53·2	30 18 30	29·3 24·6 ...	10 12 ...	39·7 38·8 41·2	1·7 2·0 1·6	·210 ·197 ·225	86 84 88
CRATHES, (Kincardine.) J. Smith, Pinewood.	145	Jan. Feb. Mar.	29·841 29·764 29·385	45·3 45·0 47·4	32·5 31·9 33·3	38·9 38·4 40·3	+2·5 +1·3 +1·2	54·5 57·0 53·3	30 5 4	23·0 23·9 25·5	19 12 3	38·9 37·7 40·1	2·7 3·3 1·9	·186 ·166 ·210	80 73 85
MONTROSE, (Forfar.) (Royal Asylum), Dr John G. Havelock.	200	Jan. Feb. Mar.	29·796 29·722 29·330	43·3 43·7 45·5	33·7 33·3 35·0	38·5 38·5 40·2	+1·2 +0·9 +0·9	51·0 53·0 51·0	6, 28 18 19, 30	27·0 25·0 26·0	26 12 3	37·4 37·1 39·6	1·4 1·3 1·5	·196 ·195 ·213	88 88 88
ARBROATH, (Forfar.) James Campbell, "For the Natural History Assoc. of Arbroath."	68	Jan. Feb. Mar.	29·964 29·882 29·478	45·1 45·8 47·7	34·8 33·7 36·2	39·9 39·7 42·0	+2·0 +1·4 +1·5	54·0 53·0 55·0	6, 28 5, 14 19, 31	29·0 24·0 29·0	26 12 3	39·6 38·3 41·6	2·4 1·9 2·2	·197 ·194 ·218	81 84 83
DUNDEE, Eastern Necropolis, (Forfar.) J. Carnochan, Curator.	164	Jan. Feb. Mar.	29·860 29·780 29·370	43·6 44·5 47·5	34·5 33·8 35·6	39·0 39·2 41·6	+2·4 +1·5 +2·0	54·7 51·2 52·8	6 14 19, 22	27·3 25·2 27·2	19 12 3	38·2 37·9 39·9	2·0 1·7 1·5	·192 ·195 ·216	84 86 88
DUNDEE, Harbour, (Forfar.) J. Thompson, Jr., Harbour Trust.	20	Jan. Feb. Mar.	30·023 29·941 29·535	45·9 47·0 49·0	35·6 34·7 37·3	40·7 40·8 43·1	+2·9 +2·3 +1·8	55·0 53·0 55·0	6 14, 15 19	30·0 27·5 32·0	17, 27 12 3	40·7 40·1 42·1	2·5 2·7 2·0	·204 ·195 ·226	81 78 85
LEDNATHIE, (Forfar.) Wm. Morrison, Gardener to Patrick Stormonth Darling.	720	Jan. Feb. Mar.	29·226 29·145 28·756	42·1 42·4 45·6	30·9 30·4 31·9	36·5 36·4 38·8	+1·6 +1·2 +1·8	51·0 53·8 53·0	6 5 22	18·0 21·3 21·8	19 3 3	37·1 36·0 37·8	2·1 2·0 1·5	·181 ·175 ·198	82 82 88
BALRUDDERY, (Forfar.) R. Cairns, Gardener to J. Martin White.	280	Jan. Feb. Mar.	29·737 29·649 29·246	44·3 45·8 48·5	33·5 32·8 34·6	38·9 39·3 41·5	+2·0 +1·3 +2·4	54·0 54·0 54·0	6 14 19	26·0 23·0 27·0	17, 19 12 3	38·6 37·5 40·0	2·1 1·9 1·8	·194 ·188 ·211	83 84 86
PERTH, (Perth.) John Leslie, Gardener to Henry Coates.	105	Jan. Feb. Mar.	29·928 29·852 29·437	44·2 44·8 49·0	32·9 33·1 34·7	38·6 39·0 41·8	+1·3 +0·8 +2·0	54·0 52·5 58·0	6 14 16	22·0 25·0 26·0	17 12, 23 3	38·6 37·9 40·5	1·9 1·3 1·7	·198 ·203 ·217	85 89 86
STRONVAR, (Perth.) D. L. Mackintosh, Gardener to James Carnegie.	422	Jan. Feb. Mar.	29·579 29·509 29·088	43·1 43·9 47·0	33·5 34·3 34·7	38·3 39·1 40·8	+1·7 +2·2 +2·0	52·0 52·0 55·0	6, 8 18 19	27·0 22·0 25·0	26 12 3	38·7 38·0 39·4	2·0 2·2 2·1	·200 ·187 ·201	87 81 83
CLATHICK, (Perth.) Alex. Hendry	300	Jan. Feb. Mar.	29·704 29·641 29·219	44·4 45·9 48·3	34·0 33·5 34·5	39·2 39·7 41·4	+2·6 +2·1 +1·8	54·0 57·3 56·2	30 14 19	26·0 23·0 25·0	26 12 3	39·4 38·1 39·9	2·5 2·4 1·7	·193 ·184 ·212	80 80 87
CUPAR, (Fife.) Dr Turnbull, Fife and Kinross District Asylum.	210	Jan. Feb. Mar.	29·814 29·736 29·328	44·3 45·3 48·3	33·4 33·8 36·7	38·8 39·6 42·5	+1·7 +1·7 +2·6	55·0 53·0 57·0	6 13 23	24·0 25·0 28·0	16 12, 26 3	38·8 39·3 42·2	2·9 3·0 2·1	·181 ·183 ·225	78 77 85
DUNFERMLINE, (Fife.) Dr J. Macdonald, High School.	225	Jan. Feb. Mar.	29·803 29·725 29·310	43·1 44·6 48·9	34·4 34·7 37·0	38·8 39·6 42·9	... ...	53·0 51·0 63·4	6 14, 18 22	27·3 28·0 32·1	16 12 3	39·2 39·1 42·2	2·1 2·2 2·3	·199 ·196 ·221	83 82 83
BUCHLYVIE, (Stirling.) Rev. John A. Macdonald.	125	Jan. Feb. Mar.	29·918 29·856 29·418	43·8 45·1 48·4	34·1 33·8 35·7	39·0 39·4 42·0	+1·7 +1·6 +2·3	52·0 52·5 57·0	6 13 22	26·0 22·0 27·0	22, 26 12 3	39·6 39·1 41·2	2·0 2·6 1·7	·204 ·191 ·223	84 80 87

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
6·1	10	0·61	– 1·77	0·22	16	4	0	0	8	6	0	4	0	0	0	6	8	18	20	9	1	3·3
5·8	15	2·05	– 0·18	0·48	27	6	0	0	3	3	0	2	1	0	2	3	4	19	18	8	1	2·0
5·4	20	3·42	+ 1·15	0·94	25	1	0	0	2	5	2	1	0	2	1	8	13	25	8	5	0	2·2
5·2	11	0·95	– 0·86	0·32	6	4	0	0	5	10	0	8	2	0	0	5	21	15	5	9	5	4·0
5·7	15	0·77	– 1·05	0·17	28	5	1	0	2	10	0	1	1	0	0	4	15	10	6	16	4	2·6
6·3	...	...	...	...	...	1	0	0	3	10	0	1	4	0	1	9	21	15	0	5	7	1·8
5·7	10	0·67	...	0·22	3	5	0	0	7	9	4	4	0	1	1	6	8	22	14	8	2	3·2
5·4	17	1·89	...	0·56	25	9	0	0	3	5	0	2	4	0	0	2	3	12	21	10	4	2·6
6·8	22	3·20	...	0·65	25	0	1	0	2	13	3	1	1	1	1	7	15	17	8	9	3	3·1
...	6	0·72	– 1·44	0·26	3	2	0	0	...	...	0	8	0	0	1	5	23	10	15	8	0	4·7
...	12	0·99	– 1·07	0·40	26	7	0	0	...	...	0	6	7	0	2	1	8	13	18	7	0	3·8
...	19	3·64	+ 1·77	0·84	11	3	0	0	...	...	2	3	2	0	4	6	18	12	11	9	0	3·6
5·4	10	0·37	– 1·79	0·13	3	5	0	0	8	8	2	4	1	0	4	11	4	9	29	4	0	2·8
5·6	10	0·76	– 1·05	0·13	7	11	0	0	2	4	1	4	4	0	1	3	1	8	27	12	0	2·8
5·0	19	2·30	+ 0·56	0·52	25	3	1	0	2	4	3	4	6	2	3	15	5	9	15	3	4	1·8
8·3	11	0·37	– 1·91	0·09	3	2	0	0	1	21	4	7	0	2	1	12	0	13	27	7	0	2·5
8·2	11	0·88	– 1·20	0·20	1	8	0	0	1	18	0	2	3	2	0	2	0	14	24	11	0	2·6
8·4	21	3·23	+ 1·35	0·80	25	1	0	1	0	21	1	1	0	10	1	17	0	11	15	8	0	1·9
6·8	13	0·41	...	0·07	3	0	0	0	3	11	1	2	0	0	3	5	6	14	30	4	0	3·2
6·2	10	0·81	...	0·20	1	1	0	0	2	5	0	0	3	1	3	0	3	7	32	7	0	3·4
6·7	24	3·01	...	0·77	23	0	0	0	2	9	2	1	0	2	5	3	8	24	17	0	8	2·6
6·1	11	0·90	– 2·75	0·26	16	6	0	0	6	12	1	12	2	3	2	5	0	8	21	17	4	4·0
6·4	15	1·78	– 1·42	0·52	25	13	0	0	2	8	0	8	2	3	3	1	2	4	19	21	1	4·0
7·7	25	6·90	+ 4·19	1·91	25	7	1	1	0	15	2	6	8	2	2	10	3	9	20	8	0	3·8
6·7	8	0·43	...	0·15	17	3	0	0	3	8	2	6	3	1	1	8	0	7	25	17	0	3·0
5·6	8	1·04	...	0·33	2	5	0	0	2	5	0	4	0	0	1	2	0	6	24	23	0	2·6
6·0	19	3·13	...	0·58	25	0	0	1	3	6	0	1	1	4	5	2	0	18	21	11	0	2·4
5·9	8	0·53	– 2·46	...	...	1	0	0	4	11	1	3	0	0	4	6	1	5	32	0	14	2·3
6·0	11	0·85	– 1·73	...	...	3	0	0	5	7	0	2	3	0	4	1	1	1	27	5	14	1·7
6·1	19	3·92	+ 1·58	...	...	0	0	1	3	11	1	1	1	0	7	5	5	3	27	1	13	1·4
...	26	5·43	– 3·93	1·07	8	3	0	0	...	...	0	9	0	0	0	6	0	16	20	20	0	3·9
...	22	4·78	– 2·16	0·95	25	3	0	0	...	...	0	5	4	2	0	2	0	14	20	14	0	4·7
...	27	8·48	+ 2·29	1·48	15	1	0	0	...	...	0	2	0	4	2	4	2	20	22	8	0	4·1
6·9	17	1·53	– 3·18	0·44	11	3	0	0	0	10	1	3	5	1	13	3	2	2	24	12	0	2·6
6·8	17	2·16	– 1·31	0·49	25	7	0	0	2	10	0	2	11	3	8	1	1	5	17	10	0	3·1
7·3	25	5·27	+ 2·51	0·78	25	2	0	0	0	10	0	1	0	5	25	1	5	11	10	5	0	2·6
5·6	7	0·35	– 1·96	0·09	18	...	...	...	1	5	...	1	10	0	9	2	2	4	25	10	0	2·1
5·8	11	0·41	– 1·57	0·20	27	...	...	...	1	3	...	2	20	0	2	0	0	7	15	10	2	2·1
5·4	21	2·11	+ 0·27	0·35	25	...	...	...	1	5	...	1	14	3	17	0	0	7	8	13	0	2·0
7·7	14	0·99	...	0·43	9	1	2	0	1	16	3	3	3	3	5	4	1	13	31	2	0	2·0
7·5	13	0·73	...	0·19	25	1	2	0	0	13	3	2	9	3	1	0	1	12	27	2	1	1·7
7·3	19	2·98	...	0·72	25	2	1	1	0	14	5	2	4	5	4	2	10	11	20	3	3	1·4
5·1	24	3·09	– 2·55	0·44	11, 17	3	0	0	3	5	3	5	0	2	5	5	1	11	24	8	6	3·3
4·4	22	4·27	– 0·33	0·74	25	4	1	0	5	3	1	3	1	2	2	0	1	9	20	19	2	3·0
5·7	25	5·01	+ 1·37	0·74	25	1	0	0	3	6	2	2	0	2	3	9	0	27	15	4	2	2·2

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
HELENSBURGH,	18	Jan.	...	44·6	35·7	40·2	+1·3	49·8	7	28·2	17	39·8	1·3	·219	90
(Dumbarton.)		Feb.	...	44·5	34·2	39·4	+0·7	49·8	15	26·0	20	38·8	2·3	·192	82
J. R. WILSON, Waterworks.		Mar.	...	48·0	37·1	42·6	+2·1	50·4	24	29·2	3	41·5	1·5	·230	88
DUMBARTON, (Dumbarton.)	27	Jan.	30·036	45·6	36·8	41·2	+2·0	51·6	31	27·5	26	41·2	2·3	·212	82
WILLIAM DENNY AND		Feb.	29·976	46·3	35·6	41·0	+1·8	52·1	17	25·8	12	40·2	2·4	·201	81
BROTHERS.		Mar.	29·519	49·2	38·1	43·6	+2·0	59·6	23	30·4	3	43·0	2·0	·234	84
LOCHBUIE, (Argyll.)	20	Jan.	30·033	47·7	38·7	43·2	+2·5	52·2	7	27·9	17	43·3	2·4	·229	81
J. T. MANNARY, Gardener to		Feb.	29·982	46·8	35·2	41·0	+1·1	50·8	9, 13	28·0	21	41·1	2·7	·203	79
The Maclaine of Lochbuie.		Mar.	29·511	49·0	38·5	43·8	+2·7	55·0	24	29·5	3	43·0	1·8	·238	86
AIRDS, (Argyll.)	15	Jan.	30·036	48·2	37·8	43·0	+2·4	57·0	9	30·0	26	43·4	2·2	·234	83
Colonel MACFIE, C.B., and		Feb.	29·985	47·7	36·2	42·0	+1·8	57·0	4	29·0	22	41·4	2·3	·214	83
ALEXANDER M'LACHLAN.		Mar.	29·518	48·8	38·3	43·6	+2·4	57·0	22	30·0	3	43·6	2·0	·241	85
POLTALLOCH, Lochgilphead	135	Jan.	29·816	46·3	37·0	41·6	+2·5	51·0	7, 29	26·0	17	41·4	1·8	·224	87
(Argyll.)		Feb.	29·870	47·1	35·0	41·0	+2·0	51·0	5, 19	24·0	21	39·7	1·5	·214	88
D. S. MELVILLE, Gardener.		Mar.	29·391	50·0	36·7	43·3	+2·9	57·0	23	27·0	3	41·7	2·0	·223	86
ROTHESAY, Glenburn	76	Jan.	29·990	46·1	37·2	41·6	+2·4	55·5	8	28·0	17	41·7	2·2	·219	84
Hydropathic, (Isle of Bute.)		Feb.	29·936	46·0	35·9	41·0	+1·4	51·5	9	26·0	21	40·1	2·1	·206	83
R. HENDERSON and D.		Mar.	29·466	49·5	36·9	43·2	+2·5	57·0	22	28·0	3	42·0	2·0	·225	85
PENNEY.															
GREENOCK, (Renfrew.)	238	Jan.	29·815	45·3	35·0	40·2	+1·5	51·2	7	25·0	17	41·6	2·0	·222	85
DANIEL MACALISTER, C.E.,		Feb.	29·756	45·2	34·4	39·8	+1·1	51·0	10	25·5	12	40·9	2·3	·209	83
Waterworks.		Mar.	29·300	48·5	36·4	42·5	+2·3	59·0	23	31·2	3	42·8	2·2	·229	83
PAISLEY, (Renfrew.)	107	Jan.	29·954	45·5	36·0	40·8	+1·9	52·0	6	28·1	17	41·4	2·3	·214	83
DONALD MACLEAN,		Feb.	29·890	46·4	36·3	41·4	+2·5	53·2	13	26·7	12	40·4	2·4	·203	81
The Coats Observatory.		Mar.	29·434	50·2	38·1	44·1	+3·8	61·9	22	31·9	3	42·6	2·2	·227	84
BOWHILL, (Ayr.)	978	Jan.	29·021	41·6	32·1	36·8	+1·8	48·0	5, 6	23·0	16	37·2	1·1	·200	90
ALEXANDER GILLESPIE, C.E.		Feb.	28·949	41·0	31·1	36·1	+0·9	47·0	14	22·0	27	36·4	1·1	·199	93
		Mar.	28·502	44·3	32·9	38·6	+2·4	54·0	22	29·0	2, 5	38·3	1·3	·205	39
KILMARNOCK, (Ayr.)	74	Jan.	29·997	45·0	35·9	40·4	...	50·5	6	26·0	26	41·3	2·3	·213	82
GLENFIELD & KENNEDY, Ltd.		Feb.	29·940	44·9	34·5	39·7	...	50·5	14	23·0	21	39·8	2·5	·197	80
		Mar.	29·465	48·8	37·8	43·3	...	59·0	18	30·5	3	42·3	2·1	·226	84
GLASGOW, Belvidere Hosp.,	54	Jan.	30·011	45·1	37·0	41·0	+2·0	52·2	6	27·6	22	41·6	2·4	·214	82
(Lanark.)		Feb.	29·948	45·7	36·5	41·1	+1·6	51·8	13, 16	25·4	12	40·9	2·5	·206	81
Dr JOHN BROWNLEE.		Mar.	29·496	49·6	38·4	44·0	+2·9	62·8	22	32·8	3	43·2	2·7	·223	80
GLASGOW, Observatory,	184	Jan.	29·868	44·4	37·2	40·8	+2·3	51·4	6	28·4	17	40·6	2·1	·211	84
(Lanark.)		Feb.	29·805	44·3	36·5	40·4	+1·4	50·2	13	27·4	12	39·9	2·4	·200	81
Prof. BECKER, F.R.S.E.		Mar.	29·349	47·6	38·3	42·9	+2·5	58·1	22	32·7	3	41·9	2·1	·224	85
BOTHWELL, (Lanark.)	150	Jan.	...	44·1	35·3	39·7	...	51·0	6	26·0	22	39·8	2·1	·204	84
Dr JOHN T. WILSON.		Feb.	...	45·2	34·9	40·0	...	52·0	18	22·0	12	38·9	1·9	·200	85
		Mar.	...	49·0	36·9	42·9	...	60·0	22	32·0	3	41·6	1·8	·226	86
		Jan.	...	40·6	28·0	34·3	...	50·9	7	15·0	17	33·6	1·6	·151	83
LEADHILLS, (Lanark.)	1300	Feb.	...	41·0	28·9	35·0	...	49·5	5	16·0	12	34·6	1·3	·175	87
JAMES M'FARLANE.		Mar.	...	45·0	32·8	38·9	...	55·9	22	28·0	11	37·4	2·0	·185	83
EDINBURGH, Royal Ob-	441	Jan.	29·574	43·9	35·1	39·5	+2·1	50·4	6	25·7	17	39·3	2·1	·200	84
servatory, (Edinburgh.)		Feb.	29·497	43·9	35·0	39·5	+1·4	53·3	18	24·6	12	38·8	2·1	·196	84
Prof. COPELAND, F.R.S.E.		Mar.	29·073	47·9	37·6	42·8	+2·9	61·2	22	33·1	3	41·5	2·5	·211	81

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
				Most in a day.																		
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Amount.	Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
...	22	2·80	−2·12	0·39	17	...	...	...	...	...	...	...	12	0	10	0	26	0	14	0	0	...
...	19	3·15	−0·85	0·60	18	...	...	...	...	...	...	...	26	0	10	0	10	0	10	0	0	...
...	24	3·99	+0·50	0·58	25	...	...	...	...	...	...	...	10	0	6	0	30	2	14	0	0	...
...	20	2·98	−2·34	0·54	17	...	...	...	...	...	...	2	4	0	6	10	2	12	16	6	6	2·9
...	22	3·74	−0·46	0·75	25	...	...	...	...	...	...	0	6	2	0	2	2	4	14	12	14	1·9
...	24	4·32	+0·72	0·59	11	...	...	...	...	...	...	1	4	2	4	14	8	8	10	8	4	2·0
8·3	22	8·66	...	1·02	24	1	1	1	0	18	0	8	0	0	10	8	6	16	16	6	0	3·4
7·9	22	8·56	...	1·07	17	0	1	1	5	15	0	3	4	0	6	0	0	8	20	10	8	2·5
7·3	23	9·56	...	1·05	4	0	0	0	4	19	0	5	6	4	4	8	18	12	2	8	0	4·5
9·2	14	3·48	−2·50	...	...	1	0	0	0	26	...	...	4	0	4	7	14	7	25	1	0	...
7·7	14	3·52	−1·04	...	...	2	0	0	3	15	...	...	8	0	10	2	3	8	21	4	0	...
8·8	18	5·28	+1·37	...	...	0	0	0	0	20	...	...	5	1	8	5	24	4	15	0	0	...
9·1	26	5·20	−0·11	0·80	17	0	3	1	0	24	0	3	5	1	0	6	7	13	9	7	14	3·8
7·0	24	4·34	+0·33	0·65	26	6	0	0	4	11	0	3	6	1	1	1	1	6	15	6	19	2·8
7·6	26	5·71	+2·03	0·52	23	1	0	0	0	14	0	2	5	2	0	5	7	14	7	8	14	2·8
7·6	23	4·40	−0·52	0·94	23	2	1	1	4	19	1	8	2	0	6	7	4	10	22	9	2	2·3
6·3	22	4·64	+0·97	0·92	25	5	0	0	5	12	2	2	2	4	3	0	2	10	27	7	1	1·8
7·4	25	5·24	+1·86	0·38	9	1	1	1	1	16	1	2	4	1	6	5	9	17	18	1	1	1·4
8·6	23	4·66	−2·24	0·64	17	2	0	0	0	20	1	2	0	0	4	10	0	11	27	9	1	2·7
7·2	23	5·89	−0·30	1·00	26	5	2	0	0	8	0	1	0	5	0	2	0	13	19	16	1	2·7
7·5	25	6·73	+2·00	1·18	15	1	2	0	0	12	0	1	0	2	1	16	0	22	14	7	0	2·6
6·2	21	2·03	−2·70	0·39	8	4	0	1	5	14	4	1	0	0	3	7	7	9	22	6	8	2·5
5·4	21	2·97	−0·64	0·78	25	6	2	1	7	9	6	0	5	1	0	0	2	5	14	17	12	2·2
6·8	25	4·26	+1·51	0·52	15	4	1	0	1	14	4	1	2	1	1	3	10	13	17	3	12	1·8
7·7	19	4·17	...	0·59	12	...	...	...	0	10	...	...	1	1	0	10	14	5	26	5	0	2·2
6·9	19	4·03	...	0·50	4	...	...	...	0	12	...	...	5	2	3	4	5	6	20	11	0	2·0
7·7	22	4·34	...	0·55	15	...	...	...	0	9	...	...	3	2	1	6	22	12	11	5	0	2·2
...	18	3·09	...	0·43	11	1	0	0	...	...	0	5	1	0	7	4	13	15	17	5	0	2·5
...	18	2·94	...	0·48	25	5	1	0	...	...	0	0	2	2	9	13	4	10	20	6	0	2·0
...	24	4·14	...	0·52	9	2	0	0	...	...	0	1	1	1	4	6	12	14	21	3	0	2·1
7·2	17	1·92	−1·68	0·59	8	1	0	0	1	12	0	4	6	2	26	1	1	0	11	14	1	2·2
7·4	18	2·30	−0·51	0·43	25	4	2	0	1	12	0	1	7	1	20	0	1	4	13	10	0	1·6
6·7	26	3·06	+0·63	0·46	25	1	0	0	1	10	0	1	3	1	31	2	1	2	15	5	2	1·5
8·7	18	2·22	−1·36	0·43	8	2	1	0	0	23	0	1	0	1	11	2	2	17	23	1	5	3·4
7·4	19	2·11	−0·89	0·42	18	4	2	1	1	15	0	1	2	0	5	1	1	15	23	4	5	3·1
8·1	25	3·28	+0·78	0·55	25	1	1	0	0	17	0	1	0	5	6	5	7	21	12	1	5	2·6
...	14	1·89	−0·86	0·36	8, 17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	14	2·25	+0·08	0·36	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	24	3·71	+1·71	0·65	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	15	2·49	...	0·65	10	7	5	0	...	...	0	10	...	...	...	...	...	...	...	...	...	...
...	21	3·39	...	0·72	18	12	1	0	...	...	0	1	...	...	...	...	...	...	...	...	...	...
...	23	8·79	...	2·09	15	10	0	1	...	...	0	3	...	...	...	...	...	...	...	...	...	...
6·3	12	0·76	−1·21	0·27	11	3	0	1	3	8	1	11	1	0	3	3	11	13	29	2	0	5·5
6·1	13	1·34	−0·31	0·36	18	5	0	0	3	5	1	5	2	3	3	0	4	12	28	3	1	3·8
5·3	19	2·41	+0·94	0·57	25	1	1	2	1	7	2	4	3	1	3	6	19	13	16	1	0	3·4

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inches.	°	°	°	°	°		°		°	°	inch.	%
CORSTORPHINE, (Edinburgh.) Dr T. N. Johnston, F.R.S.E.	165	Jan.	29·882	44·5	34·6	39·6	+2·0	51·2	6	24·0	16	39·2	2·2	·197	82
		Feb.	29·803	46·4	34·4	40·4	+1·7	55·3	13	24·8	12	38·9	2·3	·193	83
		Mar.	29·378	50·1	36·9	43·5	+2·9	64·7	22	31·8		41·6	2·3	·216	82
LEITH, (Edinburgh.) James Bolam, Nautical College, and George Redpath.	76	Jan.	29·979	45·0	36·5	40·8	+1·9	52·5	6	28·1	17	40·6	2·3	·207	82
		Feb.	29·904	46·0	36·9	41·5	+1·8	55·3	18	28·9	12	40·3	2·1	·208	84
		Mar.	29·472	49·5	38·8	44·2	+2·5	64·6	22	34·1	20	43·0	2·6	·223	80
DALKEITH, (Edinburgh.) J. Whytock, Gardener to the Duke of Buccleuch.	190	Jan.	29·858	44·6	34·9	39·8	+2·5	52·4	5	25·0	22	40·1	2·1	·206	83
		Feb.	29·775	44·7	35·2	40·0	+2·0	53·5	18	26·0	12, 23	39·8	2·2	·202	83
		Mar.	29·349	49·6	36·8	43·2	+2·6	63·5	22	31·0	20	42·6	2·5	·221	82
SMEATON, (Haddington.) John Black, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Jan.	29·956	44·7	34·9	39·8	+2·1	54·0	4, 5	28·0	17	39·6	2·1	·203	83
		Feb.	29·872	45·6	34·3	40·0	+1·8	55·0	18	24·0	12	39·2	2·2	·197	82
		Mar.	29·449	50·4	36·7	43·5	+2·5	62·8	22	31·0	3, 20	41·9	2·2	·222	85
MARCHMONT, (Berwick.) John A. Wood, Gardener.	500	Jan.	29·526	43·7	32·7	38·2	+1·4	51·0	6	20·0	17	38·1	1·9	·193	84
		Feb.	29·449	44·8	33·4	39·1	+1·6	53·0	5	19·0	12	38·4	1·7	·199	87
		Mar.	29·029	48·5	34·5	41·5	+2·6	60·0	22	29·0	20	41·5	2·3	·215	83
DUNS CASTLE, (Berwick.) James Redpath, Gardener to F. S. Hay.	500	Jan.	29·520	43·7	32·6	38·1	+1·2	53·0	6	24·5	17	37·6	2·0	·188	83
		Feb.	29·450	45·1	33·8	39·4	+1·6	55·0	18	22·0	12	37·9	2·2	·187	82
		Mar.	29·028	49·7	34·5	42·1	+2·9	61·0	22	30·0	3, 20	40·2	2·2	·205	83
STOBO CASTLE, (Peebles.) William Young, Gardener to Sir B. T. G. Montgomery, Bart.	600	Jan.	29·423	42·5	32·4	37·5	+0·9	50·0	6	23·0	19, 22	37·6	2·2	·184	81
		Feb.	29·342	42·4	33·8	38·1	+1·4	51·0	17	20·0	12	37·5	2·2	·182	81
		Mar.	28·930	45·8	35·7	40·8	+2·1	52·0	22	28·0	20	40·1	2·1	·206	83
BROOMLANDS, (Roxburgh.) James Brunton.	205	Jan.	29·873	44·5	32·4	38·4	+1·2	54·0	6	20·7	17	38·7	2·0	·197	85
		Feb.	29·778	46·3	33·1	39·7	+1·6	54·0	5, 19	22·0	12	39·0	2·1	·197	83
		Mar.	29·364	50·9	35·0	43·0	+3·3	63·0	22	28·0	20	41·8	2·2	·221	84
WOLFELEE, (Roxburgh.) Arthur Hume, Gardener to J. T. S. Elliot.	537	Jan.	29·496	42·8	32·7	37·8	+2·2	52·0	6	24·0	26	37·1	1·5	·192	87
		Feb.	29·410	43·7	33·7	38·7	+2·1	51·0	18	21·0	12	37·4	1·6	·192	86
		Mar.	28·993	48·1	35·4	41·8	+3·3	62·0	22	29·0	3, 20	39·8	1·9	·208	85
DRUMLANRIG, (Dumfries.) David Inglis, Gardener to the Duke of Buccleuch.	191	Jan.	29·893	43·4	33·7	38·6	+1·0	53·0	28	25·0	18	38·3	1·7	·198	86
		Feb.	29·810	46·1	34·0	40·0	+2·0	52·0	18	25·0	12	38·7	1·7	·202	86
		Mar.	29·370	48·9	35·0	42·0	+2·3	58·0	22	27·0	3	40·6	1·6	·219	87
DUMFRIES, (Dumfries.) Rev. William Andson.	60	Jan.	30·056	44·7	34·7	39·7	+1·4	54·0	6	25·0	22	39·7	1 9	·207	84
		Feb.	29·966	46·8	35·4	41·1	+2·0	55·5	13	25·8	12	40·2	2·2	·205	83
		Mar.	29·522	50·7	37·2	44·0	+2·9	61·0	22	29·0	3	43·0	2·1	·232	83
CARGEN, (Kirkcudbright.) Alex. Peacock, Gardener to Colonel Dudgeon.	85	Jan.	...	...	...	...	...	52·0	28	25·0	22, 26	...	...	...	...
		Feb.	...	...	...	...	...	54·0	18	24·5	12	...	...	...	...
		Mar.	...	...	...	...	...	58·0	22	28·0	3	...	...	...	...
CALLY, (Kirkcudbright.) Wm. Thomson, Gardener to H. G. Murray Stewart of Broughton.	120	Jan.	30·007	44·1	35·5	39·8	+1·1	50·6	7	25·3	19	40·0	1·3	·220	90
		Feb.	29·924	47·2	33·9	40·5	+1·5	53·2	16	25·1	23	39·6	1·2	·219	90
		Mar.	29·460	48·5	36·8	42·7	+2·0	52·0	18	29·8	3	42·9	1·5	·244	88

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
...	14	1·05	...	0·33	11	...	...	...	...	...	...	...	6	1	13	1	1	0	40	0	0	2·9
...	16	1·47	...	0·36	18	...	...	...	...	...	...	...	10	0	4	0	2	1	39	0	0	2·2
...	22	2·95	...	0·97	23	...	...	...	...	...	...	...	13	0	10	0	6	1	32	0	0	2·7
7·0	17	0·84	−1·15	0·24	11	2	0	1	7	14	1	3	0	0	6	6	12	6	30	0	2	4·1
7·1	14	1·22	−0·55	0·28	26	4	0	0	3	16	0	1	8	2	0	0	2	4	36	2	2	3·9
7·7	24	2·62	+0·96	0·68	25	2	1	2	1	15	0	1	0	4	4	0	12	12	24	4	2	3·4
6·0	8	0·20	...	...	...	8	0	0	6	9	1	2	1	1	5	5	6	12	19	13	0	2·6
6·2	17	0·55	...	...	...	7	0	0	4	9	0	0	6	1	2	2	8	8	16	13	0	1·0
6·0	19	1·14	...	...	...	1	0	2	2	8	1	1	3	1	9	2	11	18	18	0	0	1·0
...	9	0·66	−1·14	0·19	12	8	0	0	...	...	0	8	1	0	2	12	15	16	11	5	0	2·3
...	8	0·76	−0·81	0·27	19	2	0	0	...	...	0	7	6	1	5	0	9	10	21	4	0	3·4
...	16	1·82	+0·27	0·36	25	0	1	2	...	...	0	3	3	3	8	4	11	16	13	4	0	3·2
5·2	8	0·62	−1·94	0·15	11, 23	1	0	0	7	8	0	11	0	0	10	0	4	15	29	4	0	4·4
5·4	13	0·96	−1·37	0·23	12	9	0	0	5	5	0	7	10	1	0	1	10	15	18	1	0	4·0
5·0	21	2·62	+0·22	0·69	25	1	1	1	6	7	0	5	6	2	6	0	20	18	14	1	0	3·1
5·8	11	0·44	−2·02	0·13	11	3	0	0	6	10	0	4	1	2	0	8	1	20	11	18	0	2·0
5·6	16	1·10	−1·15	0·20	17	2	0	0	5	7	0	2	4	5	1	3	1	17	12	10	0	1·1
5·6	21	2·27	−0·01	0·77	25	0	0	2	3	9	0	2	0	2	4	2	4	21	13	16	0	1·2
6·7	12	0·50	−2·60	...	...	3	0	0	2	12	0	8	0	0	3	7	6	25	18	3	0	5·0
6·4	14	2·90	−0·01	...	...	6	1	0	4	8	0	6	6	5	0	0	1	17	24	2	1	3·8
6·8	17	4·80	+2·30	...	...	2	0	1	0	16	1	4	5	0	1	5	31	18	0	0	2	2·7
5·9	10	0·69	−1·29	0·23	11	...	...	0	0	3	0	1	0	0	1	3	3	45	3	0	7	2·5
6·4	14	0·88	−0·89	0·22	12	...	...	0	1	7	0	0	1	2	6	0	1	37	3	5	1	2·1
6·2	23	2·24	+0·37	0·45	25	...	...	1	1	5	0	1	0	4	0	7	0	42	6	3	0	1·6
7·0	11	0·79	−3·24	0·38	11	4	0	0	2	13	0	3	1	1	0	1	7	20	28	4	0	1·8
7·3	17	1·42	−1·65	0·32	25	8	1	0	1	10	0	1	5	3	0	3	0	23	15	7	0	1·5
7·0	22	3·17	+0·12	0·57	11	3	1	1	0	10	0	5	0	4	1	5	6	25	16	5	0	1·6
...	22	2·92	−2·27	0·39	1	4	0	0	...	...	0	1	6	0	0	10	2	18	4	22	0	...
...	23	3·06	−1·00	0·33	25	4	1	0	...	...	0	0	9	3	0	0	1	11	7	25	0	...
...	26	5·52	+2·60	0·57	15	1	1	0	...	...	0	1	2	4	0	2	5	32	3	14	0	...
...	21	1·64	−1·86	0·43	11	3	0	0	...	...	3	2	0	0	6	8	3	23	12	9	1	2·9
...	20	1·94	−1·04	0·58	25	8	0	0	...	...	0	0	1	3	3	0	0	21	18	10	0	3·0
...	24	4·06	+1·52	0·48	18	0	0	2	...	...	0	1	2	1	3	8	10	26	9	3	0	3·0
...	18	2·33	−2·37	0·61	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	19	2·71	−1·07	0·50	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	19	4·83	+1·61	0·58	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	23	4·10	−0·74	0·97	1	3	0	0	...	...	0	3	3	11	6	10	0	8	5	19	0	2·8
...	21	3·54	−0·65	0·38	25	3	1	0	...	...	0	4	5	16	0	4	0	5	8	18	0	2·4
...	23	4·80	+1·09	0·66	10	1	0	1	...	...	0	3	1	4	5	16	1	10	2	23	0	2·2

BRIGHT SUNSHINE.

STATIONS.		1905.	SUNSHINE.		
		Months.	Total Observed.	Difference from Average.	Percentage of Possible.
			hours.	hours.	%
DEERNESS,	(Orkney.)	Jan.	19·8	– 7·7	9
		Feb.	51·4	– 4·9	20
		Mar.	65·4	–42·9	18
INVERNESS,	(Inverness.)	Jan.	72·1	+27·1	32
		Feb.	82·0	+17·0	31
		Mar.	104·5	+16·5	29
FORT AUGUSTUS,	(Inverness.)	Jan.	21·5	+ 5·3	9
		Feb.	48·8	+ 7·1	19
		Mar.	65·1	–12·0	18
CRATHES,	(Kincardine.)	Jan.	61·4	...	27
		Feb.	91·1	...	35
		Mar.	88·6	...	25
BALRUDDERY,	(Forfar.)	Jan.	55·1	...	24
		Feb.	81·6	...	31
		Mar.	105·8	...	29
PAISLEY,	(Renfrew.)	Jan.	40·5	+ 5·9	18
		Feb.	85·2	+33·0	32
		Mar.	102·2	– 1·8	28
GLASGOW,	(Lanark.)	Jan.	24·4	+ 0·2	11
		Feb.	63·7	+19·5	24
		Mar.	80·5	– 6·3	22
EDINBURGH,	(Edinburgh.)	Jan.	47·0	+ 5·4	20
		Feb.	67·6	+10·9	25
		Mar.	121·0	+13·0	33
DUNS CASTLE,	(Berwick.)	Jan.	50·2	...	22
		Feb.	75·3	...	29
		Mar.	115·8	...	32
MARCHMONT,	(Berwick.)	Jan.	40·2	– 0·8	17
		Feb.	62·3	– 6·8	24
		Mar.	116·2	+10·9	32

UNDERGROUND TEMPERATURE.

STATIONS.	1905.	UNDERGROUND TEMPERATURE.				
	Months.	Depth in Inches.				
		3	12	22	36	48
		°	°	°	°	°
DUNROBIN, (Sutherland.)	Jan.	37·8	39·5	39·5	...	...
	Feb.	37·2	39·6	39·6	...	...
	Mar.	39·1	41·7	41·4	...	...
ARBROATH, (Forfar.)	Jan.	36·9	37·3	38·5	...	...
	Feb.	36·0	36·5	37·8	...	...
	Mar.	38·8	38·5	38·9	...	...
POLTALLOCH, (Argyll.)	Jan.	40·7	41·2	40·1	...	...
	Feb.	40·2	41·4	40·4	...	...
	Mar.	42·3	42·9	41·3	...	...
PAISLEY, (Renfrew.)	Jan.	40·1	40·1	42·2	...	...
	Feb.	39·6	39·9	42·2	...	...
	Mar.	41·7	41·7	42·8	...	...
CORSTORPHINE, (Edinburgh.)	Jan.	36·9	37·8	38·3	39·1	41·4
	Feb.	37·8	38·8	39·0	38·8	40·2
	Mar.	39·7	40·5	40·5	39·9	40·9
SMEATON, (Haddington.)	Jan.	...	37·2	37·0	...	...
	Feb.	35·2	37·4	37·4	...	...
	Mar.	38·4	39·9	39·4	...	...
MARCHMONT, (Berwick.)	Jan.	35·4	36·2	37·9	...	...
	Feb.	36·2	37·0	38·4	...	...
	Mar.	39·1	39·5	40·3	...	...

Continuation of page 47.]

the more Southerly stations having an excess of 1°·5 or more. A good deal of mild weather was experienced, and there were no prolonged occurrences of frost. Temperature was somewhat low on 2nd; but on 5th, Aberdeen and Crathes, with readings of 57°·0, were warmer than places in the South of England and Channel Islands. Very low temperatures occurred on night of 11th, Marchmont reporting 19°·0 and Leadhills 16°·0, and again between 20th and 24th, the night of 21st being especially cold. The warmest days were the 5th, and between 13th and 18th. The absolute maximum was 57°·3 at Clathick on 14th, and the minimum 11°·1 at Kingussie on night of 21st.

The mean rainfall was 2·77 inches, or 10 per cent. below the normal. There was a decided shortage in the Eastern half of the country from Peterhead to Berwick, a less pronounced deficiency in central Perthshire, the Clyde area and the Southern Counties, and in other districts a rainfall more or less above the average but largely in excess towards the North. In East and South-East many stations had less than half their normal amounts, and about a dozen had aggregates of less than 1 inch. On the other hand, Lairg had an excess of 80 per cent., and Stornoway, Glencarron, and Fort Augustus of more than 40 per cent. There was a general dry spell from 21st to 23rd, and in the East practically no rain fell from 2nd to 11th. The last few days of the month were very wet, Laudale, on Loch Sunart, reporting 2·39 inches on 25th. Glencarron had 1·38 inch on 3rd, and heavy falls occurred at many places between 12th and 18th.

The weather was stormy on 1st, 18th, and 19th, and very unsettled towards the end of the month. Hail, sleet, and snow were of rather frequent occurrence, but the falls were generally slight.

Thunder at Lairg on 1st, in Mull on 2nd, at Paisley on 11th, and at Glasgow on 18th.

Bright sunshine in general above the average, but below at Deerness and Marchmont.

An Aurora observed in Shetland on 1st and 13th.

MARCH 1905—

Hence the month of MARCH 1905 was characterised by an extremely low mean barometric pressure; a high mean temperature, with a mean daily range about the average; a mean humidity, nearly equal the average; a very high mean rainfall, with a large number of rainy days; a large excess of moderate winds from between S.E. and W.

The mean barometric pressure was 29·544 inches, or 0·265 inch below the normal. At Leith the barometer at sea-level was above 30 inches only from 2nd to 4th and on evening of 31st, whilst it was below 29 inches on 11th and 12th and from 14th to 16th. During the passage of a very deep depression on 15th the Leith barometer at noon fell as low as 28·381 inches.

The mean temperature was 41°·9, or 2°·3 above the normal, the days being 2°·2 and the nights 2°·4 above their respective averages. Temperature was decidedly above the normal in all districts, and at a few stations frost in shade was not recorded. Lowest temperatures were in general registered on the night of 2nd, though at some places on the nights of 9th, 17th, or 21st. The mildest weather of the month was experienced from about 19th to 23rd, highest temperatures as a rule occurring on 22nd, when readings above 60°·0 were noted at Paisley, Glasgow, Dunfermline, in the Lothians and Border Counties, and at Dumfries. The absolutely highest temperature was 64°·7 at Corstorphine on 22nd, and the lowest 16°·4 at Braemar on night of 2nd.

The mean rainfall was 4·14 inches, or 42 per cent. above the normal. At Duns, rainfall was just equal the average; and at Marchmont, Wolfelee, and Glencarron there was only a trifling excess, but the general rainfall of the country was greatly above the normal. Lednathie and Fearn had two and a half times their average amounts; and at Dunrobin, Keith, Kingussie, Braemar, Montrose, Comrie, Stobo, and Drumlanrig there was an excess of 80 per cent. or over. The weather was unsettled and wet from 3rd to 17th, with heavy falls on several days, Dunrobin registering 1·58 inch and Glencarron 1·39 on 11th, and Leadhills 2·09 on 15th. Rain was again frequent in most districts after 23rd, with heavy falls on 23rd and 25th, Lednathie having 1·91 inch on the latter day, and Aberdeen 0·94. The rainfall was in great contrast to the small amounts for January and February, the aggregate for these two months at a good many eastern stations being less than the total for March.

On 15th a gale of great severity was experienced from S. and S.S.E. Showers of hail and sleet were frequent during the earlier half of the month.

Thunder at Rothesay on 10th, at Dumfries on 12th, at Cally on 14th, at Leadhills on 15th, in East and South-East generally on 23rd, and at several places on some later day.

Bright sunshine above the average on the East Coast, below on the West, and very deficient in Orkney.

An Aurora observed at several Western stations on 2nd, and in Shetland on 6th, 9th, 15th, 29th, and 31st.

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY. FOR THE QUARTER ENDING 30th JUNE 1905.

By Dr **Buchan**, under the Direction of the Council of the Scottish Meteorological Society

These returns are founded on the observations made, morning and evening, at 58 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N.; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1905.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %.	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
Apr.	29·803	48·6	35·4	42·0	63·4	16·0	41·7	2·4	·215	82	18	2·68	7·0	*
May	30·095	57·5	41·7	49·6	78·0	24·0	49·3	3·2	·275	78	12	1·76	6·5	*
Jun.	29·982	64·8	47·3	56·0	85·0	31·3	55·7	3·6	·346	78	8	1·19	5·7	*

1905.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
Apr.	42·6	43·5	43·7	42·6	43·0	7	7	9	6	5	6	8	10	2	2·5	10	1
May	50·8	50·7	50·2	47·5	46·8	5	6	7	4	6	11	11	9	3	2·2	3	1
Jun.	57·5	57·2	55·9	52·4	51·1	3	9	16	7	5	8	7	2	3	2·2	34	2

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these returns are compared with the averages of 1856–1905, during the same months, they show the following characteristics and differences :—

APRIL 1905—

Mean Barometric Pressure, 29·803 inches; less than the average of 1856-1905 by 0·080 inch.
Mean Temperature, 42°·0; less by 2°·1.
Mean Daily Range of Temperature, 13°·2; less by 1°·3.
Mean Humidity, 82 per cent.; being the average.
Rain, Number of Days, 18; greater by 3 days.
Rain, Depth in Inches, 2·68; greater by 0·41 inch.
Wind, Mean Force (on Scale of 0–12), 2·5; less by 0·2.
Wind, Direction of: a 3 days' excess of winds from N.W. and N.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·0; greater by 0·8.

MAY 1905—

Mean Barometric Pressure, 30·095 inches; greater than the average of 1856-1905 by 0·151 inch.
Mean Temperature, 49°·6; greater by 0°·6.
Mean Daily Range of Temperature, 15°·8; greater by 0°·3.
Mean Humidity, 78 per cent.; less by 1 per cent.
Rain, Number of Days, 12; less by 1 day.
Rain, Depth in Inches, 1·76; less by 0·53 inch.
Wind, Mean Force (on Scale of 0–12), 2·2; less by 0·2.
Wind, Direction of: a 3 days' excess of winds from W. and N.W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·5; greater by 0·3.

JUNE 1905—

Mean Barometric Pressure, 29·982 inches; greater than the average of 1856–1905 by 0·036 inch.
Mean Temperature, 56°·0; greater by 1°·1.
Mean Daily Range of Temperature, 17°·5; greater by 1°·7.
Mean Humidity, 78 per cent.; less by 2 per cent.
Rain, Number of Days, 8; less by 5 days.
Rain, Depth in Inches, 1·19; less by 1·33 inch.
Wind, Mean Force (on Scale of 0–12), 2·2; less by 0·2.
Wind, Direction of: a 7 days' excess of winds from between N.E. and S.E.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 5·7; less by 0·5.

APRIL 1905—

Hence the month of APRIL 1905 was characterised by a rather low mean barometric pressure; a low mean temperature, with a low mean daily range; an average mean humidity; a rather high mean rainfall, with a somewhat large number of rainy days; an excess of moderate winds from N.W. and N.

The mean barometric pressure was 29·803 inches, or 0·080 inch below the normal. The most important depressions occurred about 4th, 10th, 28th and 30th, whilst at Leith the barometer at sea-level was above 30 inches on 1st, 2nd, 6th, and from 16th to 22nd, the extremes there being 30·287 inches on 17th and 29·223 inches on 30th.

The mean temperature was 42°·0, or 2°·1 below the normal, the days being 2°·7 and the nights 1°·4 below their respective averages. Temperature was decidedly below the average in all districts, and a great deal of very cold weather was experienced especially during the first half of the month. The coldest period was from 6th to 9th, when temperature at many stations failed to reach 40°·0 on one or more days. The night of the 7th was nearly everywhere the coldest of the month, the minimum at Balruddery Leadhills, Wolfelee, Drumlanrig and Cally falling to 20°·0 or under. In Central and Northern districts the 4th was as a rule the warmest day, but towards the South temperature was highest between 13th and 15th, whilst a few stations had their maxima towards the end of the month. The absolutely highest temperature was 63°·4 at Cally on 30th, and the lowest 16°·0 at Leadhills on 8th.

The mean rainfall was 2·68 inches, or 18 per cent. above the normal, the distribution being rather irregular. At Lairg, Arbroath, Edinburgh, and Wolfelee the amounts were about the average, whilst at Dunrobin and in the greater part of the Counties of Inverness, Perth, and Fife, there was a shortage of varying amount. On the other hand, Kelso had more than twice its average rainfall, and in the Nith Valley, Berwickshire, part of Aberdeenshire, and at Montrose, there was an excess of 50 per cent. or over. Falls of 1 inch or over in a day occurred on the 1st at Lochbuie, Greenock and Leadhills, on 14th at Lednathie, and on 28th at Duns, Marchmont and Broomlands, the largest of these being 1·43 inch at Duns on 28th. The last few days of the month were very unsettled and wet. Lairg and Tillypronie had as many as 26 days with rain, and the only stations with more than six consecutive dry days were Clathick, Dunfermline, Glasgow and Bothwell, where no rain fell from 18th to 25th.

A good deal of snow fell between 5th and 9th, the storm being of considerable severity in the North, and about the end of the third week the weather was again of a very wintry character.

Thunder on 15th at Buchlyvie, Rothesay, Leadhills, Stobo, Broomlands, Wolfelee, and Drumlanrig.

Bright sunshine below the average, especially towards the South-East.

An aurora observed in Shetland on 1st, 3rd, and 9th.

MAY 1905—

Hence the month of MAY 1905 was characterised by an extremely high mean barometric pressure; a somewhat high mean temperature, with a slightly high mean daily range; a rather low mean humidity; a low mean rainfall, with 1 less than the average number of rainy days; an excess of moderate winds from W. and N.W.

The mean barometric pressure was 30·095 inches, or 0·151 inch above the normal. At Leith the sea-level pressure remained continuously above 30 inches from 3rd to 22nd, the highest reading there being 30·449 inches on 5th, and the lowest 29·109 inches on 1st, the weather at the beginning of the month being affected by the passage of a depression of considerable intensity.

The mean temperature was 49°·6, or 0°·6 above the normal, the days being 0°·8 and the nights 0°·5 above their respective averages. Temperature was decidedly above the normal over an area stretching from the Grampians towards the South West, but a good many stations differed but little from their means, whilst towards the North

West and North East the month was slightly colder than usual. Low temperatures ruled about the 5th, but thereafter until the 20th, warm weather was experienced. Under the influence of winds from North and North East an exceedingly cold spell prevailed for a few days from 21st with low day temperature and sharp ground frosts. Thus Aberdeen had a maximum below 50° on 21st, 22nd and 25th, whilst even at Dumfries and Cally frost in shade was reported. Highest temperatures occurred generally about 17th, but in East and South East more usually towards the end of the month. The absolutely highest temperature was 78°·0 at Stronvar on 17th and at Poltalloch on 19th, and the lowest 24°·0 at Leadhills on 22nd.

The mean rainfall was 1·76 inch, or 23 per cent. below the normal. In parts of the Counties of Banff, Ross, Inverness and Argyll there was a moderate excess, but over the greater part of the country a decided deficiency, which was most pronounced in the Lothians and Border Counties. Thus the Lothians had less than half, and Berwickshire only about one third of their normal rainfalls. In general the month was the driest May since 1896. In some districts the earlier part of the month was unsettled and on 10th Lochbuie had a fall of 1·50 inch; but the chief feature of the month was an all but absolute period of general drought from 13th to 22nd, whilst at Cupar no rain fell until 24th and at Crathes none from 2nd to 23rd. Thereafter the weather was wet with heavy falls between 24th and 29th, Dumfries registering 1·37 inch on 28th.

Hail at a few places early in the month, and thunder at Stobo on 13th, Deerness on 29th, and Fort Augustus on 31st.

Fog general in East and North from 13th to 19th and towards South West at end of month.

Sunshine below the average, except towards North West. For the week ending 27th, Edinburgh had an aggregate of only 15 hours.

JUNE 1905—

Hence the month of JUNE 1905 was characterised by a rather high mean barometric pressure; a high mean temperature, with a very high mean daily range; a low mean humidity; a very low mean rainfall, with a remarkably small number of rainy days; a very large excess of moderate winds from an Easterly quarter.

The mean barometric pressure was 29·982 inches, or 0·036 inch above the normal. At Leith the sea-level pressure was above 30 inches from 5th to 14th and from 22nd to 26th, the extremes there being 30·429 inches on 23rd and 29·663 inches on 2nd.

The mean temperature was 56°·0, or 1°·1 above the normal, the days being 2°·0 and the nights 0°·3 above their respective averages. Except at some Eastern stations the month was much warmer than usual, and towards the West temperature was at places from 2°·0 to 4°·0 above the normal. The month opened with fairly high temperatures, followed by a cold spell until 12th with winds from North East. Thereafter temperature was much higher, though in the East the only really warm weather experienced was on one or two days towards the end of the month. In general the coldest days were 7th, 11th and 12th, some unusually low temperatures occurring, and Crathes and Lednathie reporting frost in shade on 11th. Almost everywhere the warmest days were from 23rd to 27th, Dumfries and Cargen recording shade maxima above 80°·0 on each of these five days. The absolutely highest temperature was 85°·0 at Buchlyvie on 25th, and the lowest 31°·3 at Crathes on 11th.

The mean rainfall was 1·19 inch, or 53 per cent. below the normal, being the smallest June rainfall since 1891. At Kingussie there was a slight excess and Drumlanrig had nearly its average rainfall, but over the country generally there was a most pronounced deficiency. At Bothwell and in parts of East Lothian and Berwickshire the aggregate was less than half-an-inch, and nearly one half of the stations had falls of less than 1 inch. Deficiencies of from 40 to 60 per cent. were common, and at several places, such as Gordon Castle, Glasgow and Duns, the shortage was at least 75 per cent. Rain was more or less general until 3rd or 4th: an absolute drought then set in, lasting until 17th, when heavy rains became general until 20th. Thereafter in most western districts no rain fell, whilst towards the close of the month thunderstorms in central and eastern Scotland were associated with heavy rainfalls. The largest daily amounts were 1·05 inch at Stronvar on 19th, 0·96 at Glencarron on 26th, 0·94 at Kingussie on 27th, and 0·92 at Cargen on 20th.

A thunderstorm of great severity took place in the Lochaber district on 23rd and 24th, and a destructive "wash-out" occurred at Tulloch on the West Highland Railway Thunderstorms in East and North about 26th and 27th followed somewhat irregular courses, and the accompanying rains were very local.

The amount of sunshine was unusually large, especially in the West.

During the latter part of the month fog was somewhat prevalent in the East and North, especially between 24th and 27th.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905. Months.	BAROMETER. Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	AIR TEMPERATURE. Mean of A. Maximum.	AIR TEMPERATURE. Mean of B. Minimum.	AIR TEMPERATURE. Mean of A and B.	AIR TEMPERATURE. Difference from Average.	AIR TEMPERATURE. Absolute Maximum and Minimum. Maximum.	AIR TEMPERATURE. Absolute Maximum and Minimum. Day of Month.	AIR TEMPERATURE. Absolute Maximum and Minimum. Minimum.	AIR TEMPERATURE. Absolute Maximum and Minimum. Day of Month.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Dry Bulb.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Depression of Wet Bulb.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Vapour Pressure.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	Apr.	29·509	...	...	...	...	...	...	...	...	38·7	...	...	...
		May	29·767	...	...	...	...	...	...	...	...	44·3	...	...	...
		Jun.	29·740	...	...	...	...	...	...	...	...	...	...	...	...
LERWICK, (Shetland.) Capt. G. ALLISON, Harbour Master.	30	Apr.	29·743	44·1	35·5	39·8	−2·8	48·0	17, 30	24·0	7	39·6	2·0	·204	84
		May	29·993	50·3	41·2	45·8	−0·3	56·0	18, 28	34·0	24	45·8	2·2	·259	84
		Jun.	29·932	56·6	47·7	52·2	+1·6	63·0	27	42·0	12	51·7	2·5	·319	83
DEERNESS, (Orkney.) M. SPENCE, Schoolhouse.	172	Apr.	29·595	43·8	35·6	39·7	−2·5	49·6	4	25·0	7, 28	40·0	1·9	·209	85
		May	29·865	50·3	41·8	46·0	−0·7	57·2	31	35·0	24, 25	45·7	1·9	·265	87
		Jun.	29·800	56·0	47·4	51·7	+0·9	59·1	22	43·0	6	51·3	1·9	·329	87
KIRKWALL, (Orkney.) J. S. BEGG, S.S.C.	30	Apr.	29·760	45·2	35·3	40·2	−3·3	50·0	5	27·0	7, 8	41·2	2·0	·217	85
		May	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jun.	29·955	60·4	47·3	53·8	+0·9	69·0	24	40·4	4	53·3	2·0	·351	86
DUNROBIN, (Sutherland.) D. MELVILLE, Gardener, Dunrobin Castle.	16	Apr.	29·771	47·0	35·8	41·4	−2·8	57·0	4	26·0	7, 9	41·0	2·8	·201	78
		May	30·039	55·2	41·3	48·2	−0·2	63·5	29	35·0	24	48·1	2·7	·271	81
		Jun.	29·946	60·0	48·0	54·0	+0·9	69·5	24	40·0	1	54·8	2·6	·357	83
LAIRG, (Sutherland.) Rev. JOHN K. MACLEAN.	390	Apr.	...	...	...	...	...	...	...	...	...	...	...	...	...
		May	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jun.	...	...	...	...	...	...	...	...	...	...	...	...	...
GLENCARRON, (Ross.) D. D. MUNRO.	504	Apr.	29·245	46·6	34·6	40·6	−2·1	59·0	13	24·6	8	40·4	2·7	·198	80
		May	29·530	54·9	40·3	47·6	−0·1	71·4	17	31·8	22	47·8	3·1	·260	79
		Jun.	29·418	64·8	47·5	56·2	+3·2	79·0	23, 25	40·0	9	56·3	4·6	·329	72
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	Apr.	29·630	...	...	...	...	...	...	...	...	43·1	...	...	...
		May	29·912	...	...	...	...	...	...	...	...	47·6	...	...	...
		Jun.	29·769	...	...	...	...	...	...	...	...	55·5	...	...	...
KINGUSSIE, (Inverness.) Dr WALTER DE WATTEVILLE.	828	Apr.	28·897	47·0	32·9	40·0	−1·5	56·2	26	21·4	8	39·1	2·4	·193	81
		May	29·178	57·5	38·4	48·0	+1·1	77·1	17	30·0	23	48·2	3·4	·257	76
		Jun.	29·084	67·6	44·5	56·0	+2·1	84·5	24	34·5	12	57·2	5·0	·330	70
INVERNESS, (Inverness.) THOS. WALLACE, High School.	114	Apr.	29·677	48·2	36·5	42·3	−3·0	59·7	13	28·8	6, 8	42·7	2·8	·216	79
		May	29·955	55·6	43·6	49·6	+0·4	67·1	16	34·9	5	49·8	3·3	·278	79
		Jun.	29·843	62·5	49·0	55·8	+1·1	76·3	24	41·4	12	56·2	3·4	·357	79
FORT AUGUSTUS, (Inverness.) Rev. CYRIL VON DIECKHOFF, St Benedict's Priory.	73	Apr.	29·720	48·8	35·5	42·2	−2·2	58·0	14	23·8	8	41·8	2·2	·221	84
		May	30·004	56·6	42·4	49·5	−0·2	73·2	16	30·7	22	49·3	2·8	·284	81
		Jun.	29·882	63·2	48·8	56·0	+0·6	83·1	24	37·6	9	55·6	3·3	·352	79
GORDON CASTLE, (Banff.) C. WEBSTER, Gardener to the Duke of Richmond and Gordon.	107	Apr.	29·683	47·0	34·5	40·8	−3·6	55·6	26	26·3	7	41·3	2·5	·209	81
		May	29·960	57·1	41·3	49·2	+0·4	73·0	16	33·0	23	49·9	3·6	·273	76
		Jun.	29·864	65·9	46·9	56·4	+1·8	82·5	24	39·0	10	56·3	4·2	·339	74
BRAEMAR, (Aberdeen.) JAMES AITKEN, Banker.	1114	Apr.	28·582	44·3	32·4	38·4	−2·3	54·2	4	20·6	8	38·1	2·1	·189	82
		May	28·862	55·9	38·8	47·4	+1·4	70·0	17	30·0	4	47·7	3·6	·248	76
		Jun.	28·776	63·8	44·0	53·9	+1·3	79·3	25	33·7	11	55·0	4·1	·323	75
LOANHEAD, (Aberdeen.) ALEX. FARQUHARSON.	747	Apr.	28·986	45·1	32·9	39·0	−3·5	57·7	3	23·5	8	39·8	1·5	·215	88
		May	29·263	57·7	40·5	49·1	+1·8	73·4	17	31·7	23	49·3	2·8	·284	81
		Jun.	29·187	66·2	45·6	55·9	+2·2	84·1	27	34·0	11, 12	56·4	3·5	·358	78
TILLYPRONIE, (Aberdeen.) ROBT. LITTLEJOHN, Gardener to Sir John F. Clark, Bt.	1120	Apr.	28·585	44·5	31·2	37·8	−3·0	57·5	4	20·5	8	37·2	1·6	·191	86
		May	28·864	55·8	38·7	47·2	+1·9	70·0	17	31·0	22, 23	46·7	2·9	·253	81
		Jun.	28·795	62·9	44·8	53·8	+2·0	78·5	25	34·3	11	53·1	3·1	·321	79

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
8·2	19	...	...	...	...	9	0	0	1	16	0	4	12	3	3	9	12	6	3	8	4	4·5
9·3	11	...	...	...	...	3	0	0	0	25	11	0	13	7	2	5	6	15	9	4	1	3·6
8·4	...	...	...	...	...	0	0	0	0	19	10	0	7	10	10	4	7	2	8	4	8	2·3
...	19	3·46	...	0·50	11	6	0	0	...	...	0	5	18	9	7	5	15	3	0	2	1	3·8
...	16	1·58	...	0·27	28	0	0	0	...	...	2	0	12	6	6	2	11	7	12	4	2	3·5
...	8	0·98	...	0·30	20	0	0	0	...	...	8	0	11	8	8	2	18	5	2	3	3	3·0
7·8	21	2·59	+ 0·64	0·36	9, 27	7	4	0	0	17	4	7	11	7	4	12	5	1	5	15	0	5·6
7·3	13	1·57	− 0·16	0·26	28	0	2	1	0	16	6	1	16	2	6	5	9	4	10	10	0	4·6
7·4	7	1·44	− 0·40	0·42	27	0	0	1	1	17	12	2	10	10	11	11	6	4	2	6	0	4·0
...	19	2·75	+ 0·11	0·40	27	3	...	...	...	...	...	1	16	6	12	4	4	0	4	14	0	4·0
...	...	1·33	− 0·46	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	10	1·14	− 0·52	0·38	29	...	...	...	...	...	...	1	2	6	16	12	6	0	18	0	0	2·6
...	14	1·73	− 0·19	0·31	5	2	1	0	...	...	0	1	4	5	20	8	4	2	10	7	0	2·0
...	15	1·14	− 0·75	0·20	23	0	0	0	...	...	1	0	1	7	19	9	2	7	9	8	0	1·7
...	8	0·86	− 1·13	0·34	18	0	0	0	...	...	1	0	4	2	32	9	2	3	6	2	0	1·8
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7·9	21	4·45	− 0·68	0·90	22	...	0	0	1	12	0	0	17	0	23	0	0	0	19	0	1	3·7
7·2	21	4·85	+ 0·37	1·16	10	0	0	0	4	16	0	0	8	0	20	0	1	0	33	0	0	3·6
5·8	11	2·33	− 1·74	0·96	20	0	0	2	5	11	0	1	14	0	27	0	1	0	18	0	0	3·4
4·7	16	2·26	− 0·32	0·48	27	4	0	0	2	0	1	1	13	10	7	10	6	5	2	7	0	4·0
5·5	11	1·45	− 0·66	0·29	24	0	0	0	3	5	5	0	8	6	6	0	7	13	11	11	0	3·1
4·4	8	1·53	− 0·58	0·33	24	0	0	1	11	6	0	0	10	7	14	4	9	3	9	3	1	2·8
7·6	23	1·48	− 0·44	0·21	21	5	0	0	0	15	...	...	...	...	...	...	...	...	...	...	...	...
6·7	14	1·85	+ 0·08	0·48	24	0	0	0	3	12	...	...	...	...	...	...	...	...	...	...	...	...
4·9	13	2·13	+ 0·15	0·94	27	0	0	1	7	4	...	...	...	...	...	...	...	...	...	...	...	...
8·0	17	1·55	+ 0·07	0·21	1, 3	4	3	0	1	18	2	0	5	9	11	4	1	8	7	14	1	1·7
7·7	15	1·77	− 0·03	0·33	23, 25	0	1	0	1	18	2	1	3	17	7	1	0	14	12	7	1	1·7
6·6	6	0·54	− 1·33	0·17	4	0	0	3	0	7	4	0	1	27	13	1	0	10	6	1	1	1·6
6·5	15	1·58	− 0·72	0·36	1	4	1	0	1	9	1	0	3	20	1	2	6	9	2	1	16	1·9
6·8	14	2·62	+ 0·44	0·43	24	0	0	1	2	13	1	3	1	22	1	0	2	21	2	1	12	2·4
5·8	7	0·92	− 1·29	0·22	20	0	0	4	4	9	1	2	1	35	0	0	4	13	0	0	7	3·3
8·2	20	2·36	+ 0·47	0·38	5	5	1	0	1	18	0	0	8	7	2	12	6	3	7	15	0	1·4
7·6	18	2·16	+ 0·39	0·51	26	0	0	0	2	17	0	0	11	6	1	9	12	9	1	13	0	1·4
5·9	6	0·53	− 1·54	0·24	18	0	0	0	0	5	0	0	9	20	1	11	3	10	1	5	0	1·4
7·5	22	2·59	+ 0·30	0·44	14	7	0	0	0	14	4	0	1	15	1	2	3	16	6	16	0	0·9
6·5	15	1·65	− 0·61	0·54	25	0	0	0	2	7	2	0	6	12	0	4	1	19	7	13	0	0·9
6·1	9	1·41	− 0·86	0·40	20	0	0	2	1	4	1	0	0	17	0	12	0	28	2	1	0	0·8
7·3	24	3·07	+ 1·01	0·51	4	11	0	0	3	16	0	0	4	3	3	10	0	2	3	19	16	1·1
6·2	13	1·24	− 0·91	0·31	25	0	0	0	5	12	0	0	6	1	1	2	1	10	6	14	21	0·8
6·1	9	1·21	− 0·85	0·41	27	0	0	2	5	11	0	1	1	11	5	6	0	7	2	4	24	0·8
8·1	26	3·05	+ 0·89	0·53	13	1	0	0	0	19	1	0	15	6	0	22	0	5	0	12	0	2·6
6·9	15	1·60	− 0·44	0·43	25	1	0	0	1	12	1	1	1	1	0	7	1	33	1	18	0	2·4
6·5	9	1·39	− 0·87	0·65	27	0	0	1	1	8	3	1	0	4	0	17	2	27	0	10	0	1·2

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
ABERDEEN, (Aberdeen.) Peter Harper, Superintendent, Duthie Park.	44	Apr.	29·770	47·4	36·2	41·8	−2·5	59·0	4	21·0	8	41·5	2·4	·213	82
		May	30·040	57·1	41·7	49·4	+0·9	65·8	9	32·0	5	49·5	3·1	·275	79
		Jun.	29·945	63·4	48·5	55·9	+1·3	72·0	27	37·0	11	54·4	3·2	·335	79
PETERHEAD, (Aberdeen.) Dr W. H. M'Walter, H.M. Prison.	100	Apr.	29·682	46·2	35·5	40·8	−3·0	52·9	4	25·2	8	40·7	1·7	·218	86
		May	29·964	53·4	41·1	47·3	−0·9	63·0	12	34·2	23	47·1	2·9	·256	79
		Jun.	29·880	58·4	46·4	52·4	−1·4	67·0	21	34·5	3	51·9	2·6	·319	83
CRATHES, (Kincardine.) J. Smith, Pinewood.	145	Apr.	29·644	47·1	33·7	40·4	−2·5	59·3	4	25·0	8	40·6	2·6	·201	80
		May	29·929	58·0	40·3	49·2	+1·3	69·8	17	30·0	5, 23	49·9	4·0	·265	73
		Jun.	29·830	65·0	45·6	55·3	−1·0	77·0	27	31·3	11	56·5	4·8	·326	71
MONTROSE, (Forfar.) (Royal Asylum), Dr John G. Havelock.	200	Apr.	29·582	45·2	34·6	39·9	−3·8	55·0	4	23·0	8	39·9	1·6	·214	87
		May	29·873	54·7	41·0	47·8	−0·3	64·0	30	32·0	5	47·7	2·7	·267	81
		Jun.	29·776	59·9	47·4	53·6	−0·8	70·0	22	37·0	11	53·1	3·1	·321	79
ARBROATH, (Forfar.) James Campbell, "For the Natural History Assoc. of Arbroath."	68	Apr.	29·734	47·8	35·8	41·8	−2·6	58·0	4	26·0	8	41·8	2·2	·221	84
		May	30·028	55·1	41·8	48·4	−0·3	63·0	30	34·0	22, 23	48·4	2·3	·283	84
		Jun.	29·928	60·1	47·5	53·8	−0·7	66·5	19	40·0	11	53·5	2·6	·339	82
DUNDEE, Eastern Necropolis, (Forfar.) J. Carnochan, Curator.	164	Apr.	29·626	48·7	35·3	42·0	−2·6	57·1	4	25·9	8	40·8	2·0	·214	84
		May	29·918	58·1	41·8	49·9	+0·6	66·5	31	33·3	23	49·2	2·7	·285	81
		Jun.	29·814	64·1	47·3	55·7	0·0	76·3	27	40·0	7	54·4	2·8	·346	82
DUNDEE, Harbour, (Forfar.) J. Thompson, Jr., Harbour Trust.	20	Apr.	29·788	...	...	...	...	...	...	...	...	43·1	2·8	·220	79
		May	30·082	...	...	...	...	...	...	...	...	50·5	3·3	·286	78
		Jun.	29·978	63·5	49·9	56·7	0·0	77·0	27	44·0	7	55·4	3·4	·345	79
LEDNATHIE, (Forfar.) Wm. Morrison, Gardener to Patrick Stormonth Darling.	720	Apr.	29·014	45·8	32·4	39·1	−2·9	54·0	4	21·0	10	39·1	2·3	·194	82
		May	29·311	56·7	37·9	47·3	+0·2	68·8	13	26·8	23	47·8	3·3	·256	78
		Jun.	29·218	63·9	42·3	53·1	−0·1	74·8	25, 27	31·5	11	54·6	3·8	·324	77
BALRUDDERY, (Forfar.) R. Cairns, Gardener to J. Martin White.	280	Apr.	29·490	50·2	34·3	42·2	−2·5	57·0	4	20·0	8	41·2	2·4	·210	82
		May	29·794	58·5	40·3	49·4	+0·1	67·0	31	30·0	22	49·3	3·5	·269	76
		Jun.	29·690	64·4	46·4	55·4	−0·3	76·0	27	38·0	11	55·2	3·8	·337	76
PERTH, (Perth.) John Leslie, Gardener to Henry Coates.	105	Apr.	29·688	50·2	34·4	42·3	−2·9	57·0	4	21·5	8	41·5	2·3	·215	83
		May	29·986	60·0	40·5	50·2	+0·6	67·5	13	29·0	21, 22	49·7	2·9	·286	81
		Jun.	29·869	65·9	46·2	56·0	+0·1	80·5	27	34·0	8	54·7	2·8	·351	81
STRONVAR, (Perth.) D. L. Mackintosh, Gardener to James Carnegie.	422	Apr.	29·345	49·7	35·0	42·3	−1·6	60·0	3	21·0	8	41·0	2·8	·201	78
		May	29·627	60·3	40·1	50·2	+1·7	78·0	17	30·0	23	49·5	3·1	·279	79
		Jun.	29·532	69·2	47·2	58·2	+3·5	82·0	26	34·0	8	56·0	3·8	·345	76
CLATHICK, (Perth.) Alex. Hendry.	300	Apr.	29·475	50·0	34·8	42·4	−2·0	58·0	3	22·0	8	42·0	3·0	·207	78
		May	29·763	60·6	40·6	50·6	+1·5	72·0	17	30·0	5	50·1	3·5	·277	77
		Jun.	29·661	68·2	46·0	57·1	+1·7	83·0	27	33·5	8	55·6	3·5	·347	78
CUPAR, (Fife.) Dr Turnbull, Fife and Kinross District Asylum.	210	Apr.	29·575	51·2	35·5	43·4	−0·7	59·0	13	22·0	8	43·0	2·5	·225	81
		May	29·870	...	40·8	...	...	...	...	32·0	5, 23	50·1	3·4	·279	77
		Jun.	29·770	63·0	47·4	55·2	−0·5	78·0	27	40·0	6, 12	54·7	3·3	·338	78
DUNFERMLINE, (Fife.) Dr J. Macdonald, High School.	225	Apr.	29·552	48·5	36·2	42·3	...	58·0	3, 4	25·1	8	42·9	2·5	·224	82
		May	29·850	58·2	42·7	50·4	...	68·6	17	33·8	22	49·8	3·4	·276	78
		Jun.	...	...	...	...	...	...	...	...	...	...	...	...	...
BUCHLYVIE, (Stirling.) Rev. John A. Macdonald.	125	Apr.	29·670	50·6	35·2	42·9	−1·4	57·0	3	25·0	8	42·5	2·4	·222	82
		May	29·963	61·2	42·2	51·7	+2·4	72·5	17, 18	30·5	22	50·9	2·9	·300	81
		Jun.	29·844	69·5	46·9	58·2	+2·8	85·0	25	36·0	8, 11	57·3	3·3	·374	79

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
6·7	22	3·37	+ 1·26	0·53	14	7	0	0	1	11	2	0	4	7	2	8	8	10	1	19	1	2·5
5·8	12	1·38	– 0·68	0·27	30	0	0	0	3	4	0	0	7	8	2	4	7	17	1	16	0	2·4
5·4	7	0·87	– 0·93	0·23	4	0	0	0	0	3	6	0	1	13	17	4	10	10	2	3	0	1·8
7·2	19	2·17	+ 0·30	...	...	5	0	0	2	17	1	0	8	0	6	6	8	8	1	17	6	2·1
6·2	11	1·21	– 0·26	0·35	27	0	0	0	2	10	2	0	10	1	2	6	10	8	1	13	11	1·5
6·8	6	1·43	– 0·57	0·46	4	0	0	0	1	12	10	0	17	3	3	8	12	8	2	2	10	1·6
7·0	19	2·48	...	0·40	14	6	3	0	2	12	2	0	4	2	11	8	5	4	7	17	2	3·0
6·0	8	0·88	...	0·30	26	0	1	0	5	10	2	0	8	3	4	6	5	13	6	11	6	2·8
4·5	8	0·51	...	0·23	20	0	0	1	10	6	2	0	8	12	14	11	5	6	4	2	3	2·8
...	14	3·09	+ 1·04	0·76	13	2	1	0	...	...	0	6	6	5	8	9	7	2	4	19	0	4·2
...	9	1·37	– 0·51	0·31	25	0	0	0	...	...	1	2	11	3	8	6	14	8	12	5	0	3·6
...	4	0·56	– 1·40	0·38	20	0	0	1	...	...	1	3	5	17	9	10	11	6	2	0	0	3·6
6·0	16	1·71	– 0·05	0·31	14	8	6	0	5	11	6	1	6	7	7	6	4	7	7	12	4	2·0
5·2	10	1·30	– 0·55	0·39	26	0	0	0	4	7	2	0	5	25	0	3	2	12	12	2	1	1·5
5·2	7	0·56	– 1·29	0·19	20	0	0	0	0	5	3	0	1	30	4	10	2	2	5	2	4	1·4
8·2	17	2·28	+ 0·31	0·50	14	3	4	0	0	16	2	0	4	6	2	18	0	9	3	18	0	2·2
8·0	12	1·45	– 0·43	0·38	26	0	1	0	1	17	0	0	1	9	2	18	0	19	4	9	0	1·7
8·2	8	0·88	– 1·12	0·30	27	0	0	1	0	18	2	2	0	12	7	27	0	12	2	0	0	2·0
6·7	16	2·07	...	0·51	14	...	...	...	3	11	3	0	5	4	13	9	1	9	8	11	0	2·8
6·1	10	1·47	...	0·41	26	...	...	...	2	8	0	0	2	7	14	6	2	13	10	8	0	2·4
4·7	8	0·78	...	0·24	18	...	...	...	8	2	1	0	0	2	28	11	0	6	13	0	0	2·8
7·2	21	3·69	+ 0·61	1·33	14	8	2	0	0	12	3	8	7	4	8	9	0	5	9	18	0	3·8
6·8	11	2·20	– 0·38	0·65	26	0	1	0	3	7	2	4	6	5	1	11	5	12	9	13	0	4·1
5·2	12	1·61	– 1·14	0·24	4, 28	0	0	1	3	3	5	3	2	6	4	18	15	4	8	3	0	3·7
6·2	13	1·71	...	0·56	15	3	0	0	2	9	2	0	2	9	7	7	1	5	12	17	0	2·6
6·1	10	2·45	...	0·88	27	0	1	0	1	7	0	0	0	5	5	7	1	15	14	15	0	2·0
4·9	6	1·24	...	0·38	29	0	0	1	5	4	0	0	0	9	12	17	2	10	7	3	0	2·1
6·1	18	1·38	– 0·74	0·25	28	...	0	0	6	14	0	0	6	2	13	4	2	1	10	6	16	1·9
5·2	7	1·67	– 0·53	0·84	26	0	0	0	8	10	0	0	1	1	12	1	2	7	20	3	15	1·6
4·6	7	0·56	– 1·55	0·34	21	0	0	1	6	4	0	0	1	1	20	4	2	4	9	0	19	0·7
...	20	3·83	– 0·44	0·62	1	5	2	0	...	...	0	1	0	12	10	6	0	0	10	22	0	4·3
...	16	3·12	– 0·76	0·80	28	0	0	0	...	...	0	0	0	4	12	2	2	4	20	18	0	2·4
...	12	2·83	– 1·11	1·05	19	0	0	3	...	...	0	0	0	2	32	4	2	12	8	0	0	3·0
6·5	18	2·10	– 0·15	0·29	26	2	0	0	1	11	0	1	7	12	24	4	3	5	5	0	0	2·9
6·4	13	1·91	– 0·67	0·63	26	0	0	0	1	12	0	0	6	7	17	4	6	3	14	5	0	3·1
6·2	11	1·76	– 1·15	0·39	18	0	0	3	5	10	0	2	0	0	24	11	13	4	6	2	0	2·9
5·5	11	0·76	– 1·12	0·30	15	...	...	...	0	7	...	0	15	3	16	1	2	1	12	8	2	2·2
5·3	6	0·60	– 1·29	0·20	26, 29	...	...	...	2	2	...	0	20	5	15	0	3	3	9	7	0	1·6
5·3	6	1·01	– 0·89	0·50	28	...	...	...	2	6	...	0	7	3	38	0	0	0	8	4	0	2·1
7·6	12	1·29	...	0·24	1	4	1	0	2	14	4	0	4	17	2	3	6	7	10	10	1	1·2
6·7	9	1·26	...	0·28	8	0	1	0	3	10	2	0	8	11	6	3	10	7	16	1	0	1·0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5·6	25	3·34	+ 0·62	0·70	1	5	2	1	4	7	2	0	2	5	16	5	2	11	5	13	1	2·7
4·8	14	2·57	– 0·21	0·20	26, 29	0	0	0	2	3	0	0	0	3	15	6	2	9	16	11	0	2·4
3·9	9	1·17	– 2·10	0·42	20	0	0	2	11	1	0	0	0	5	25	10	0	7	12	1	0	2·5

STATIONS AND OBSERRVERS' NAMES.	Height of Station above Sea level.	1905.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	
HELENSBURGH, (Dumbarton.) J. R. WILSON, Waterworks.	18	Apr.	...	...	35·4	...	...	...	..	26·0	8	...	...	...	...
		May	...	...	43·6	...	...	...	...	35·6	23	...	...	...	...
		Jun.	...	...	47·4	...	...	...	...	42·0	6	...	...	...	...
DUMBARTON, (Dumbarton.) WILLIAM DENNY AND BROTHERS.	27	Apr.	29·775	51·0	36·8	43·9	−2·0	57·1	28	26·1	8	43·9	3·0	·223	77
		May	30·070	59·7	44·6	52·2	+1·9	70·7	19	34·7	5	51·5	3·5	·293	77
		Jun.	29·940	68·0	49·1	58·6	+2·4	81·1	26	39·8	11	58·4	4·1	·370	76
LOCHBUIE, (Argyll.) J. T. MANNARY, Gardener to The Maclaine of Lochbuie.	20	Apr.	29·780	51·5	37·5	44·5	−0·5	59·0	27	26·0	8	44·8	2·8	·235	79
		May	30·081	57·6	43·7	50·6	+0·6	71·5	19	37·0	22	50·8	3·2	·292	79
		Jun.	29·954	66·7	51·7	59·2	+4·2	76·5	26	42·5	5	58·2	3·0	·396	81
AIRDS, (Argyll.) Colonel MACFIE, C.B., and ALEXANDER M'LACHLAN.	15	Apr.	29·790	49·9	37·9	43·9	−1·9	57·0	14, 15	32·0	7, 12	43·2	3·0	·217	78
		May	30·076	56·8	43·1	50·0	0·0	70·0	17, 18	35·0	22	50·0	3·2	·282	79
		Jun.	29·950	66·1	48·4	57·2	+2·2	77·0	30	36·0	1	56·8	3·5	·362	76
POLTALLOCH, Lochgilphead (Argyll.) D. S. MELVILLE, Gardener.	135	Apr.	29·653	51·2	35·9	43·6	−1·4	59·0	16	28·0	11, 12	42·7	1·3	·246	89
		May	29·956	60·2	43·0	51·6	+1·7	78·0	19	32·0	4	51·0	3·1	·297	79
		Jun.	29·823	69·5	48·9	59·2	+3·5	83·0	24	38·0	8	58·7	4·0	·376	76
ROTHESAY, Glenburn Hydropathic, (Isle of Bute.) R. HENDERSON and D. PENNEY.	76	Apr.	29·718	51·0	36·2	43·6	−1·7	58·0	15	26·0	8	43·3	2·8	·222	79
		May	30·022	59·3	42·8	51·0	+1·1	71·0	17, 18	32·5	4	50·7	3·3	·288	78
		Jun.	29·888	67·1	48·9	58·0	+2·8	79·5	23	42·0	5	57·0	4·1	·349	75
GREENOCK, (Renfrew.) DANIEL MACALISTER, C.E., Waterworks.	238	Apr.	29·551	49·2	35·4	42·3	−2·2	57·0	28	25·5	8	42·9	2·9	·216	79
		May	29·850	58·5	42·6	50·6	+1·3	69·2	19	34·9	23	50·8	3·2	·292	79
		Jun.	29·723	66·0	48·2	57·1	+2·1	79·5	26	41·0	8, 11	56·7	4·3	·341	73
PAISLEY, (Renfrew.) DONALD MACLEAN, The Coats Observatory.	107	Apr.	29·684	52·4	37·2	44·8	−0·3	60·0	15	28·0	8	44·0	3·0	·224	77
		May	29·984	61·2	44·3	52·7	+2·0	71·4	14	35·5	5	51·6	3·8	·288	76
		Jun.	29·855	68·9	49·5	59·2	+2·8	82·4	25	42·0	7	57·6	4·4	·351	74
BOWHILL, (Ayr.) ALEXANDER GILLESPIE, C.E.	978	Apr.	28·740	46·3	33·4	39·8	−1·0	55·0	3	25·0	6	39·5	2·2	·200	82
		May	29·050	55·4	38·6	47·0	+0·5	69·0	17, 18	31·0	22, 24	47·0	2·4	·266	83
		Jun.	28·922	63·6	45·3	54·5	+2·1	77·0	23	36·0	8	54·6	3·9	·322	76
KILMARNOCK, (Ayr.) GLENFIELD & KENNEDY, Ltd.	74	Apr.	29·719	50·3	36·4	43·4	...	58·0	14, 30	23·0	8	43·3	3·0	·218	78
		May	30·028	58·8	42·4	50·6	...	71·0	17	30·0	23	50·9	3·5	·286	77
		Jun.	29·896	66·3	47·5	56·9	...	81·0	23	38·0	11	56·6	4·5	·335	73
GLASGOW, Belvidere Hosp., (Lanark.) Dr JOHN BROWNLEE.	54	Apr.	29·740	50·6	37·4	44·0	−1·8	60·4	13	25·5	8	44·2	3·2	·222	76
		May	30·041	59·8	43·3	51·6	+1·2	71·8	16	32·5	5	51·9	4·0	·288	74
		Jun.	29·923	67·6	49·4	58·5	+2·3	81·8	25	41·0	11	58·0	5·0	·342	71
GLASGOW, Observatory, (Lanark.) Prof. BECKER, F.R.S.E.	184	Apr.	29·599	49·0	37·7	43·4	−1·7	56·6	14	27·6	8	42·9	2·8	·218	80
		May	29·900	57·7	44·3	51·0	+0·8	69·1	16	36·3	22	50·2	3·5	·278	77
		Jun.	29·774	65·2	49·7	57·4	+1·6	79·3	25	41·9	11	56·4	4·5	·333	73
BOTHWELL, (Lanark.) Dr JOHN T. WILSON.	150	Apr.	...	50·4	35·1	42·8	...	59·0	14	23·0	8	42·5	2·5	·220	81
		May	...	59·2	42·5	50·8	...	70·0	17	31·0	23	50·5	3·6	·279	76
		Jun.	...	66·7	47·7	57·2	...	83·0	26	40·0	5	55·8	3·8	·342	76
LEADHILLS, (Lanark.) JAMES M'FARLANE.	1300	Apr.	...	45·6	31·5	38·6	...	55·1	15	16·0	8	38·2	2·0	·192	84
		May	...	54·0	38·7	46·4	...	70·0	17	24·0	22	46·4	2·9	·251	81
		Jun.	...	64·5	45·2	54·9	...	77·9	23	35·0	11	54·9	4·5	·313	72
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. COPELAND, F.R.S.E.	441	Apr.	29·319	47·7	36·8	42·2	−1·3	59·7	14	25·6	8	41·6	2·6	·210	80
		May	29·620	55·7	43·2	49·4	+1·4	64·8	27	34·8	22	48·8	3·3	·268	78
		Jun.	29·508	60·9	47·8	54·4	+0·5	76·9	27	42·6	12	53·4	2·9	·330	81

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	17	2·85	+0·34	0·94	1	...	...	...	...	...	...	...	6	0	24	0	12	0	18	0	0	...
...	12	2·00	-0·75	0·59	26	...	...	...	...	...	...	...	8	0	4	0	26	0	24	0	0	...
...	7	0·81	-1·99	0·19	20	...	...	...	...	...	...	...	2	0	24	0	14	0	20	0	0	...
...	19	2·49	-0·17	0·45	12	...	...	...	...	...	...	...	10	6	10	8	2	0	6	14	4	2·2
...	13	1·80	-0·92	0·43	26	...	...	..	...	...	...	...	0	2	2	6	12	2	4	16	18	1·5
...	8	0·88	-1·82	0·26	18	...	...	...	...	...	...	...	0	0	18	8	4	4	4	0	22	1·7
5·9	17	4·48	...	1·35	1	3	0	0	7	10	0	1	12	12	8	10	2	6	6	4	0	3·3
5·1	15	5·00	...	1·50	11	0	0	0	11	11	0	0	6	8	8	2	6	12	12	6	2	2·8
4·5	8	1·52	...	0·50	2	0	0	0	12	11	0	1	0	2	26	0	4	18	6	0	4	2·8
7·8	18	2·92	+0·14	...	...	0	0	0	0	16	0	0	11	0	22	5	9	4	7	2	0	2·6
6·4	8	3·34	+0·19	...	...	0	0	0	3	13	0	0	14	0	13	1	8	10	14	2	0	2·2
5·6	5	1·30	-2·17	...	...	0	0	0	7	12	0	0	11	0	23	1	7	5	13	0	0	2·0
6·9	19	3·94	+1·29	0·79	1	2	2	1	0	10	0	0	8	8	4	5	9	7	0	2	17	2·1
6·3	16	2·71	+0·08	0·61	28	0	1	0	2	10	0	0	3	2	1	3	0	11	5	11	26	1·5
5·3	7	1·46	-1·70	0·39	19	0	0	0	7	8	0	0	0	1	1	13	6	7	5	2	25	2·0
6·3	18	3·50	+0·76	0·59	27	1	1	1	5	12	1	0	3	5	13	0	7	5	15	6	6	1·6
6·7	14	2·33	-0·35	0·45	27	0	0	0	4	15	0	0	4	9	7	0	5	9	14	11	3	1·3
5·0	7	1·48	-1·62	0·44	20	0	0	1	9	7	0	0	2	12	22	0	5	6	8	2	3	1·7
7·5	19	4·22	+0·76	1·01	1	3	3	0	1	13	0	0	0	5	7	15	0	10	4	19	0	2·4
6·7	12	2·46	-0·77	0·59	26	0	0	0	0	8	0	0	0	7	8	3	0	8	25	11	0	2·2
5·9	6	1·51	-1·93	0·43	20	0	0	1	1	5	0	0	0	8	14	16	0	4	14	3	1	2·3
7·0	20	2·46	+0·49	0·51	1	4	5	0	3	14	2	0	16	4	11	2	7	3	9	1	7	2·2
6·9	14	1·57	-0·60	0·34	26	0	0	0	1	13	4	0	3	5	8	3	15	6	7	11	14	1·8
4·3	8	1·00	-1·22	0·40	20	0	0	1	11	6	2	0	0	5	25	2	4	5	7	2	10	1·7
7·4	14	3·63	...	0·93	1	...	...	...	0	5	...	...	6	2	10	6	13	7	8	8	0	2·0
6·9	15	1·66	...	0·29	28	...	...	...	0	7	...	...	10	2	4	2	14	10	11	9	0	1·8
6·0	8	2·25	...	0·61	20	...	...	...	0	2	...	...	6	2	16	14	7	5	9	1	0	1·8
...	16	2·39	...	0·66	1	2	1	0	...	...	0	0	1	3	16	10	5	5	13	7	0	2·2
...	12	2·05	...	0·50	27	0	0	0	...	...	0	0	2	1	10	2	6	11	18	12	0	2·0
...	6	1·47	...	0·46	20	0	0	0	...	...	0	0	0	1	25	5	3	11	12	1	2	2·0
7·5	18	1·90	+0·02	0·37	26	1	1	0	1	14	0	0	4	3	14	3	2	2	16	2	14	1·1
7·6	11	1·63	-0·62	0·37	26	0	0	0	0	11	0	0	1	1	14	3	1	5	18	4	15	1·1
6·1	6	0·45	-2·10	0·21	20	0	0	0	2	6	0	0	1	3	30	4	1	5	11	1	4	0·9
8·0	16	2·40	+0·36	0·56	29	4	0	1	0	17	0	0	3	10	7	4	4	6	12	6	8	2·5
7·5	11	1·52	-0·87	0·35	26	0	0	0	1	16	0	0	1	9	11	0	7	12	17	1	4	2·4
6·6	7	0·64	-2·06	0·15	17	0	0	0	1	8	0	0	1	20	16	0	5	13	3	0	2	3·0
...	14	1·95	+0·18	0·37	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	11	1·15	+0·63	0·23	26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	4	0·35	-1·56	0·16	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	20	4·71	...	1·10	1	5	1	1	...	...	0	0	...	...	...	...	...	...	...	...	...	...
...	12	3·52	...	0·83	28	0	0	0	...	...	0	0	...	...	...	...	...	...	...	...	...	...
...	9	2·28	...	0·54	20	0	0	1	...	...	0	3	...	...	...	...	...	...	...	...	...	...
6·8	20	1·48	-0·03	0·23	26	3	2	0	1	11	2	1	5	6	7	3	11	6	14	7	1	3·1
5·9	9	0·55	-1·10	0·22	28	0	0	0	4	11	1	0	3	3	12	3	12	4	20	2	8	2·8
5·5	9	0·91	-1·00	0·39	27	0	0	2	4	6	3	0	3	25	8	0	5	9	7	1	2	2·7

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905. Months.	BAROMETER. Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	AIR TEMPERATURE. Mean of A. Maximum.	AIR TEMPERATURE. Mean of B. Minimum.	AIR TEMPERATURE. Mean of A and B.	AIR TEMPERATURE. Difference from Average.	AIR TEMPERATURE. Absolute Maximum and Minimum. Maximum.	AIR TEMPERATURE. Absolute Maximum and Minimum. Day of Month.	AIR TEMPERATURE. Absolute Maximum and Minimum. Minimum.	AIR TEMPERATURE. Absolute Maximum and Minimum. Day of Month.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Dry Bulb.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Depression of Wet Bulb.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Vapour Pressure.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Humidity
	feet.		inches.												%
CORSTORPHINE, (Edinburgh.) Dr T. N. JOHNSTON, F.R.S.E.	165	Apr.	29·621	50·2	36·0	48·1	−0·9	61·8	14	23·8	8	42·3	2·6	·217	81
		May	29·921	58·7	42·0	50·3	+1·7	68·9	14	31·5	22	49·6	3·1	·280	80
		Jun.	29·807	63·9	47·9	55·9	+0·8	78·1	27	37·9	8	54·2	3·6	·322	77
LEITH, (Edinburgh.) JAMES BOLAM, Nautical College, and GEORGE REDPATH.	76	Apr.	29·719	49·4	38·2	43·8	−1·4	59·9	14	28·5	8	43·7	2·8	·225	78
		May	30·019	57·9	44·9	51·4	+0·9	67·6	28	37·9	22	51·0	3·4	·290	78
		Jun.	29·909	62·4	49·7	56·0	+0·2	81·6	27	44·1	12	55·0	2·9	·352	82
DALKEITH, (Edinburgh.) J. WHYTOCK, Gardener to the Duke of Buccleuch.	190	Apr.	29·590	49·8	36·5	43·2	−2·6	60·3	14	24·5	8	43·0	2·9	·217	79
		May	29·990	59·2	43·2	51·2	+1·8	68·3	28	35·0	23	50·4	3·6	·278	77
		Jun.	29·793	65·3	47·0	56·2	+0·4	78·0	27	38·0	12	55·2	3·2	·347	80
SMEATON, (Haddington.) JOHN BLACK, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Apr.	29·695	50·7	36·6	43·6	−2·7	63·0	14	25·0	8	43·0	2·4	·226	82
		May	29·983	60·8	42·4	51·6	+1·1	70·0	28	35·0	5, 23	51·3	3·1	·301	79
		Jun.	29·880	67·7	48·2	57·9	+1·2	78·4	27	41·0	12	56·3	3·1	·366	80
MARCHMONT, (Berwick.) JOHN A. WOOD, Gardener.	500	Apr.	29·250	48·4	34·7	41·6	−2·2	57·0	14	23·0	8	41·6	2·2	·218	83
		May	29·564	57·0	40·8	48·9	+0·8	66·0	28, 31	30·0	17	49·4	3·3	·274	78
		Jun.	29·452	63·3	46·3	54·8	+0·7	76·0	27	40·0	11, 12	54·6	3·7	·327	77
DUNS CASTLE, (Berwick.) JAMES REDPATH, Gardener to F. S. Hay.	500	Apr.	29·256	47·9	35·6	41·8	- 2·3	56·0	8	25·0	8	41·2	2·6	·207	80
		May	29·560	57·4	40·9	49·1	+0·9	67·0	31	32·5	23	48·1	3·1	·262	78
		Jun.	29·451	64·3	46·6	55·4	+1·2	76·0	27	38·0	11	54·4	3·4	·330	78
STOBO CASTLE, (Peebles.) WILLIAM YOUNG, Gardener to Sir B. T. G. Montgomery, Bart.	600	Apr.	29·146	48·4	35·3	41·8	−1·6	59·0	14	21·0	8	40·9	2·1	·213	84
		May	29·463	58·4	40·2	49·3	+0·8	73·0	17	29·0	22	48·7	3·1	·270	79
		Jun.	29·352	66·7	46·0	56·3	+1·6	82·0	24, 25	37·0	11	56·1	4·0	·342	75
BROOMLANDS, (Roxburgh.) JAMES BRUNTON.	205	Apr.	29·589	50·5	35·0	42·8	−2·2	60·0	14	21·0	8	42·6	2·4	·223	82
		May	29·890	59·5	41·1	50·3	+0·8	70·0	28	32·0	5, 23	50·1	3·5	·277	77
		Jun.	29·772	65·7	46·7	56·2	+0·7	79·0	24, 25	39·0	6, 11	55·5	3·1	·354	80
WOLFELEE, (Roxburgh.) ARTHUR HUME, Gardener to J. T. S. Elliot.	537	Apr.	29·212	48·8	34·3	41·6	−1·6	57·0	14	20·0	8	40·4	2·0	·211	84
		May	29·524	58·3	40·3	49·3	+0·3	71·0	17	31·0	5	48·0	2·5	·274	83
		Jun.	29·407	66·9	45·0	56·0	+1·1	82·0	25	37·0	12, 16	55·0	3·7	·332	77
DRUMLANRIG, (Dumfries.) DAVID INGLIS, Gardener to the Duke of Buccleuch.	191	Apr.	29·601	50·3	35·7	43·0	−1·0	58·0	15	20·0	8	42·4	2·6	·217	81
		May	29·902	59·4	40·6	50·0	+0·3	74·0	18	29·0	22, 23	49·7	3·1	·281	79
		Jun.	29·778	68·3	46·9	57·6	+1·8	81·0	25	34·0	11	57·4	4·3	·350	74
DUMFRIES, (Dumfries.) Rev. WILLIAM ANDSON.	60	Apr.	29·742	51·6	37·0	44·3	−1·7	63·0	15	25·3	8	43·8	2·9	·224	77
		May	30·048	60·2	42·6	51·4	0·0	73·0	13	31·8	23	51·9	4·0	·288	74
		Jun.	29·930	69·0	48·6	58·8	+1·9	84·5	23	38·7	9	59·8	5·6	·351	68
CARGEN, (Kirkcudbright.) ALEX. PEACOCK, Gardener to Colonel Dudgeon.	85	Apr.	29·682	50·4	36·4	43·4	−1·9	58·0	15	25·0	8	43·6	2·2	·236	83
		May	30·020	59·6	42·1	50·8	+0·3	73·0	17, 18	31·0	23	51·5	2·7	·312	82
		Jun.	29·902	68·7	47·6	58·2	+2·0	82·6	23	38·0	9	59·2	3·7	·392	78
CALLY, (Kirkcudbright.) WM. THOMSON, Gardener to H. G. Murray Stewart of Broughton.	120	Apr.	29·676	49·9	35·8	42·9	−2·8	63·4	30	19·7	8	43·1	1·3	·250	89
		May	29·999	61·9	41·6	51·7	+1·3	72·4	18	31·1	23	50·2	2·5	·301	84
		Jun.	29·844	66·4	46·7	56·6	+0·9	80·6	27	39·1	9	57·1	3·1	·376	80

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
6·3	17	1·65	...	0·20	26	3	0	0	0	13	0	0	10	0	20	0	5	0	24	0	1	2·4
5·3	11	0·74	...	0·20	28	0	0	0	5	6	0	0	1	1	21	0	0	0	35	0	4	2·0
5·3	9	0·71	...	0·30	20	0	0	2	4	4	3	0	0	0	34	0	3	0	16	1	6	2·2
7·3	19	1·69	−0·07	0·23	26	4	4	0	1	17	0	0	10	4	10	2	6	4	18	4	2	3·7
7·5	13	0·87	−1·00	0·26	28	0	0	0	4	15	0	0	4	10	12	4	6	10	10	6	0	3·5
6·9	10	1·17	−0·83	0·60	27	0	0	2	5	13	3	0	0	16	24	0	2	8	6	4	0	3·8
6·9	19	1·00	...	...	...	5	3	0	3	15	1	0	5	9	10	5	1	9	6	15	0	1·2
6·6	11	0·97	...	...	...	0	0	0	4	14	0	0	9	4	3	0	8	13	12	13	0	1·0
5·9	6	0·75	...	...	...	0	0	2	5	9	1	0	2	23	7	1	4	8	6	9	0	1·5
...	11	1·74	+0·23	0·29	27	1	0	0	...	...	4	0	11	0	17	4	5	7	8	8	0	1·4
...	7	0·81	−0·95	0·24	29	0	0	0	...	...	2	0	9	2	13	4	16	9	6	3	0	1·2
...	8	0·46	−1·41	0·20	28	0	0	3	...	...	4	0	4	2	27	2	21	3	1	0	0	1·1
7·1	21	3·73	+1·47	1·09	28	7	2	0	4	13	0	4	9	5	14	5	5	4	13	5	0	3·5
5·9	10	0·77	−1·59	0·17	25	0	0	0	6	10	0	1	14	6	13	3	7	8	4	7	0	2·8
4·7	4	0·32	−2·20	0·18	20	0	0	3	5	5	0	2	10	4	30	3	7	2	3	1	0	3·1
7·3	23	3·75	+1·57	1·43	28	5	1	0	3	18	1	0	4	10	13	3	1	11	9	9	0	1·8
6·4	12	0·73	−1·35	0·28	25	0	0	0	4	12	0	0	1	4	7	0	1	22	9	17	1	0·9
6·2	8	0·41	−1·86	0·17	20	0	0	2	4	7	0	0	0	15	15	4	4	8	6	8	0	0·9
6·8	14	2·00	+0·18	...	...	4	0	1	2	11	0	3	5	19	2	8	7	13	2	4	0	2·8
5·9	11	1·00	−0·68	...	...	0	0	1	4	7	0	1	8	7	9	6	13	11	5	3	0	3·0
6·0	6	0·75	−1·13	...	...	0	0	3	9	4	0	0	6	13	3	10	15	9	2	2	0	2·6
7·0	20	4·48	+2·76	1·09	28	2	0	1	0	7	0	0	2	4	17	0	2	11	10	14	0	1·9
6·0	11	0·70	−1·14	0·19	25	0	0	0	3	3	0	0	0	2	21	1	1	29	6	0	2	1·6
5·9	8	0·55	−1·44	0·19	27	0	0	1	0	1	0	0	0	8	30	1	0	17	2	0	2	2·1
7·5	22	2·44	0·00	0·25	30	5	0	1	1	11	0	0	4	11	0	9	3	13	7	13	0	1·8
5·8	11	1·13	−1·35	0·48	1	0	0	0	2	5	0	0	1	14	2	1	5	19	8	12	0	1·3
4·8	8	1·41	−0·87	0·45	18	0	0	2	4	2	1	0	4	17	5	3	2	17	7	5	0	1·0
...	20	3·68	+1·19	0·59	1	1	1	1	...	...	0	0	7	10	0	9	7	16	0	10	1	...
...	12	2·40	0·00	1·13	28	0	0	0	...	...	0	0	2	9	0	6	1	18	1	25	0	...
...	10	2·31	−0·23	0·56	20	0	0	2	...	...	0	0	0	15	0	14	9	15	1	6	0	...
...	19	3·39	+1·14	0·64	30	1	0	0	...	...	1	0	1	8	7	12	5	8	7	10	2	2·5
...	13	2·01	−0·31	1·37	28	0	0	0	...	...	0	0	0	8	9	6	8	14	7	10	0	2·5
...	6	1·82	−0·54	0·59	20	0	0	0	...	...	0	0	0	10	17	10	4	13	3	3	0	2·6
6·5	13	3·99	+1·51	0·76	30	2	1	3	0	6	0	0	5	3	11	6	11	5	5	14	0	1·4
5·6	8	2·17	−0·41	1·44	28	0	0	0	0	3	0	0	4	5	8	10	12	8	6	9	0	1·2
5·6	5	2·00	−0·56	0·92	20	0	0	2	0	2	0	0	0	0	25	8	14	3	10	0	0	1·3
...	18	3·59	+0·76	0·63	1	3	2	0	...	...	0	0	0	16	3	10	2	13	2	14	0	1·6
...	11	1·84	−1·08	0·71	28	0	0	0	...	...	0	0	3	4	3	13	12	9	5	13	0	1·1
...	9	1·95	−1·09	0·57	2	0	0	0	...	...	0	0	0	14	4	13	11	11	2	4	1	1·3

BRIGHT SUNSHINE.

STATIONS.	1905.	SUNSHINE.		
	Months.	Total Observed.	Difference from Average.	Percentage of Possible.
		hours.	hours.	%
DEERNESS, (Orkney.)	April	112·1	−37·0	26
	May	151·6	−28·4	29
	June	193·9	+43·1	36
INVERNESS, (Inverness.)	April	113·6	− 1·4	27
	May	171·2	+41·2	34
	June	244·3	+90·3	46
FORT AUGUSTUS, (Inverness.)	April	103·2	−12·4	24
	May	149·9	+15·3	30
	June	195·1	+64·7	37
CRATHES, (Kincardine.)	April	109·3	...	26
	May	159·1	...	32
	June	253·3	...	48
BALRUDDERY, (Forfar.)	April	187·5	...	33
	May	164·6	...	33
	June	244·8	...	47
PAISLEY, (Renfrew.)	April	120·4	−22·6	29
	May	145·5	−24·5	29
	June	192·5	+35·5	37
GLASGOW, (Lanark.)	April	114·6	−12·5	27
	May	150·1	−16·5	30
	June	240·6	+80·2	47
EDINBURGH, (Edinburgh.)	April	98·4	−45·2	23
	May	164·1	− 4·7	33
	June	234·0	+49·9	45
DUNS CASTLE, (Berwick.)	April	106·2	...	25
	May	147·5	...	30
	June	212·8	...	41
MARCHMONT, (Berwick.)	April	110·8	−30·4	26
	May	165·5	−19·1	33
	June	234·9	+56·9	46

UNDERGROUND TEMPERATURE.

STATIONS.		1905. Months.	UNDERGROUND TEMPERATURE. Depth in Inches. 3	12	22	36	48
			°	°	°	°	°
DUNROBIN,	(Sutherland.)	April	41·3	44·3	44·1	...	...
		May	48·5	50·7	49·9	...	...
		June	56·1	57·3	56·2	...	...
ARBROATH	(Forfar.)	April	40·9	40·5	40·9	...	...
		May	48·1	47·1	46·7	...	...
		June	54·2	53·2	52·0	...	...
POLTALLOCH,	(Argyll.)	April	45·0	45·8	45·5	...	...
		May	53·9	54·4	53·5	...	...
		June	61·2	61·6	59·5	...	...
PAISLEY,	(Renfrew.)	April	43·8	44·2	45·1	...	...
		May	51·4	50·5	50·6	...	...
		June	57·4	56·8	56·0	...	...
CORSTORPHINE,	(Edinburgh.)	April	42·4	43·7	43·5	42·6	43·0
		May	50·5	50·4	49·9	47·5	46·8
		June	56·6	56·4	55·4	52·4	51·1
SMEATON,	(Haddington.)	April	43·6	44·3	43·9	...	...
		May	53·1	52·8	51·5	...	...
		June	59·6	59·4	57·1	...	...
MARCHMONT,	(Berwick.)	April	41·2	42·0	42·8	...	...
		May	49·9	49·2	49·0	...	...
		June	57·4	55·7	55·0	...	...

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 30th SEPTEMBER 1905.

By Dr **Buchan**, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 58 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N.; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1905.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %.	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
July	29·950	67·2	51·0	59·1	85·0	33·2	58·6	3·5	·388	79	16	2·57	6·7	*
Aug.	29·809	62·6	48·4	55·5	75·5	32·0	55·2	2·8	·357	82	19	3·93	7·1	*
Sept.	29·905	58·9	45·4	52·2	71·0	27·0	51·8	2·5	·321	83	17	2·76	6·3	*

1905.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
July	61·1	61·1	60·3	56·9	55·6	2	2	4	4	4	14	22	7	8	2·2	43	2
Aug.	57·1	57·9	58·1	56·4	56·0	4	6	8	5	5	10	14	7	8	2·3	31	2
Sept.	52·2	53·8	54·7	54·1	54·1	4	5	6	4	5	12	14	7	8	2·6	3	2

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these returns are compared with the averages of 1856–1905, during the same months, they show the following characteristics and differences :—

JULY 1905—

Mean Barometric Pressure, 29·950 inches; greater than the average of 1856–1905 by 0·058 inch.
Mean Temperature, 59°·1; greater by 1°·8.
Mean Daily Range of Temperature, 16°·2; greater by 1°·3.
Mean Humidity, 79 per cent.; less by 3 per cent.
Rain, Number of Days, 16; greater by 1 day.
Rain, Depth in Inches, 2·57; less by 0·55 inch.
Wind, Mean Force (on Scale of 0–12), 2·2; less by 0·2.
Wind, Direction of: a 5 days' excess of winds from W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·7; greater by 0·1.

AUGUST 1905—

Mean Barometric Pressure, 29·809 inches; less than the average of 1856–1905 by 0·047 inch.
Mean Temperature, 55°·5; less by 1°·0.
Mean Daily Range of Temperature, 14°·2; less by 0°·3
Mean Humidity, 82 per cent.; less by 2 per cent.
Rain, Number of Days, 19; greater by 3 days.
Rain, Depth in Inches, 3·93; greater by 0·25 inch.
Wind, Mean Force (on Scale of 0–12), 2·3; being the average.
Wind, Direction of: a 1 day's excess of winds from N.E. and 1 day's excess from W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·1; greater by 0·5.

SEPTEMBER 1905—

Mean Barometric Pressure, 29·905 inches; greater than the average of 1856–1905 by 0·052 inch.
Mean Temperature, 52°·2; less by 0°·6.
Mean Daily Range of Temperature, 13°·5; less by 0°·5.
Mean Humidity, 83 per cent.; less by 2 per cent.
Rain, Number of Days, 17; greater by 1 day.
Rain, Depth in Inches, 2·76; less by 0·76 inch.
Wind, Mean Force (on Scale of 0–12), 2·6; being the average.
Wind, Direction of: a 1 day's excess of winds from N.E.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·3; being the average.

JULY 1905—

Hence the month of JULY 1905 was characterised by a rather high mean barometric pressure; a high mean temperature, with a high mean daily range; a low mean humidity; a low mean rainfall, with one more than the average number of days with rain; a large excess of moderate westerly winds.

The mean barometric pressure was 29·950 inches, or 0·058 inch above the normal. There was no long continued period of high pressure, but the sea-level pressure at Leith was above 30 inches on 1st, 3rd, 4th, from 6th to 9th, on 13th and 14th, from 19th to 21st, and on 28th, the extremes there being 30·219 inches on 19th and 29·570 inches on 29th.

The mean temperature was 59°·1, or 1°·8 above the normal, the days being 2°·5 and the nights 1°·2 above their respective averages. The month was the warmest July since 1901, but much less warm than that month which had a mean temperature of 61°·8. All districts were warmer than usual, nearly all by at least 1°·0 and several Southerly stations by as much as 3°·0. Readings of 80°·0 or over were noted at Crathes on 7th, at several Southerly stations on 9th, at Perth on 10th, at Clathick on 11th, at Smeaton on 14th, and in Dundee district on 21st. In general the week ending 15th was the warmest of the month, whilst lowest temperatures occurred during the first week, on 19th, or from 27th to 29th. The absolutely highest temperature was 85°·0 at Stobo on 9th, and the lowest 33°·2 at Kingussie on 19th.

The mean rainfall was 2·57 inches, or 18 per cent. below the normal. At Deerness and in Shetland there was an excess, as also to a trifling degree at a few mainland stations such as Glencarron, Peterhead, Helensburgh and Bothwell. In general, however, there was a decided deficiency, less than half the normal being registered in parts of the counties of Inverness, Forfar, Perth, Peebles, Kiikcudbright and Dumfries. Heavy falls occurred on the East Coast on 2nd, Smeaton registering 1·01 inch, and we note a fall of 1·65 inch at Landale, on Loch Sunart, on 9th, and falls of one inch or more at Bothwell on 9th, at Dumfries on 16th, and at Lochbuie on 11th, 21st and 29th, the weather being unsettled around these various dates. On the East Coast practically no rain fell from 6th to 10th, whilst the number of days with rain ranged from 26 at Lairg, and 23 at Glencarron to only 8 at Montrose.

A severe thunderstorm was general on 9th, with heavy rains in places, and there were minor occurrences in various districts on other days. At Marchmont thunder was reported on 6 days, and at Leadhills, Aberdeen and Crathes on 5 days.

Sunshine above the average, especially towards the South-East, Marchmont having 1½ hours a day more than the normal.

A good deal of fog on 2nd, from 9th to 14th, and from 20th to 22nd.

AUGUST 1905—

Hence the month of AUGUST 1905 was characterised by a slightly low mean barometric pressure; a rather low mean temperature, with a fractionally low mean daily range; a rather low mean humidity; a mean rainfall a little above the normal, with 3 more than the average number of days with rain; a slight excess of winds of average strength from N.E. and from W.

The mean barometric pressure was 29·809 inches, or 0·047 inch below the normal. Depressions of some depth occurred on 19th and 28th, whilst at Leith the sea-level pressure was above 30 inches from 12th to 17th, and on 30th and 31st, the extremes there being 30·240 inches on 30th, and 29·337 inches on 19th.

The mean temperature was 55°·5, or 1°·0 below the normal, the days being 1°·2 and the nights 0°·9 below their respective averages. In Midlothian and at Poltalloch, Lochbuie and Deerness, the month was of fully average warmth, but in most districts there was a decided temperature deficiency, amounting at Fort Augustus to as much as 2°·4. No spell of markedly cold or warm weather occurred, temperature varying with the direction of the wind. At most stations South of the Grampians the 31st was the

[*Continued on page* 84.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	July	29·605	...	...	...	...	...	...	...	...	53·1	...	...	...
		Aug.	29·494	...	...	...	...	...	...	...	...	53·5	...	...	...
		Sep.	...	...	...	...	...	...	...	...	...	...	...	...	...
LERWICK, (Shetland.) Capt. G. Allison, Harbour Master.	30	July	29·825	58·5	50·7	54·6	+0·9	63·0	1	47·0	8	54·2	2·3	·355	84
		Aug.	29·720	58·0	50·2	54·1	+0·6	63·0	2, 5	46·0	23	53·9	2·1	·357	87
		Sep.	29·790	54·9	47·3	51·1	–0·6	61·0	7	39·0	26	51·3	2·7	·310	82
DEERNESS, (Orkney.) M. Spence, Schoolhouse.	172	July	29·710	59·5	50·7	55·1	+1·5	67·0	9	47·0	28	55·0	2·3	·367	85
		Aug.	29·596	57·7	49·7	53·7	+0·3	61·0	8	46·2	16	53·7	2·0	·357	87
		Sep.	29·663	55·4	47·2	51·3	+0·1	58·8	5	40·1	30	51·3	2·3	·319	84
KIRKWALL, (Orkney.) William T. Sinclair.	30	July	29·860	61·9	49·8	55·8	+0·8	68·0	10	44·0	24	55·4	2·2	·377	86
		Aug.	29·737	59·2	49·0	54·1	–0·7	65·8	10	41·0	16	54·7	2·2	·366	86
		Sep.	29·815	57·3	46·4	51·9	–0·5	64·0	7	38·0	21	51·5	2·3	·321	84
DUNROBIN, (Sutherland.) D. Melville, Gardener, Dunrobin Castle.	16	July	29·885	65·2	50·8	58·0	+1·7	72·0	7, 21	44·0	19	57·0	2·7	·385	83
		Aug.	29·762	60·6	49·4	55·0	–1·0	64·5	8	45·5	31	55·0	3·0	·349	81
		Sep.	29·843	58·3	44·6	51·5	–1·4	66·0	17	38·5	21	51·1	2·9	·303	80
LAIRG, (Sutherland.) Rev. John K. Maclean, M.A.	390	July	29·482	66·9	49·2	58·0	+1·1	77·3	9	39·0	19	56·3	3·0	·369	81
		Aug.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sep.	...	...	...	...	...	...	...	...	...	...	...	...	...
GLENCARRON, (Ross.) D. D. Munro.	504	July	29·382	61·9	49·7	55·8	+0·8	75·2	9	39·0	7	55·9	3·0	·364	81
		Aug.	29·259	59·5	47·6	53·6	–1·2	69·1	16	40·6	17	53·3	2·5	·338	83
		Sep.	29·334	55·9	44·8	50·3	–0·7	63·1	22	35·0	26	50·3	2·5	·301	83
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	July	29·773	...	...	...	...	...	...	...	...	56·4	...	...	...
		Aug.	29·638	...	...	...	...	...	...	...	...	54·7	...	...	...
		Sep.	29·712	...	...	...	...	...	...	...	...	53·2	...	...	...
KINGUSSIE, (Inverness.) Dr Walter de Watteville.	828	July	29·045	66·6	48·5	57·5	+1·9	77·7	11	33·2	19	57·1	4·1	·350	75
		Aug.	28·922	61·1	45·3	53·2	–1·0	67·5	23	38·9	9	53·2	3·2	·320	79
		Sep.	29·003	57·1	42·8	50·0	0·0	63·4	18	31·4	20	49·5	2·8	·285	81
INVERNESS, (Inverness.) Thos. Wallace, High School.	114	July	29·807	66·6	52·1	59·3	+2·3	73·4	18	43·4	19	60·3	4·5	·387	74
		Aug.	29·680	61·2	50·1	55·7	–1·0	66·1	18	39·7	24	56·2	2·9	·370	82
		Sep.	29·759	59·2	47·0	53·1	0·0	65·6	1	40·8	23	52·5	2·8	·322	81
FORT AUGUSTUS, (Inverness.) Rev. Cyril von Dieckhoff, St Benedict's Priory.	78	July	29·847	64·9	51·5	58·2	+0·7	73·9	11	38·4	19	57·5	3·1	·383	80
		Aug.	29·728	60·9	48·8	54·8	–2·4	65·9	13	38·0	24	54·6	2·3	·361	85
		Sep.	29·810	58·5	46·0	52·2	–0·8	65·4	6	32·3	21	51·5	2·5	·316	83
GORDON CASTLE, (Banff.) C. Webster, Gardener to the Duke of Richmond and Gordon.	107	July	29·802	67·9	50·0	59·0	+1·8	78·0	9	43·0	1, 29	59·0	4·0	·380	76
		Aug.	29·678	62·7	48·7	55·7	–0·8	72·0	4	40·0	23	55·8	3·2	·358	80
		Sep.	29·747	59·9	44·3	52·1	–1·2	67·5	4	34·0	24	52·4	3·1	·314	80
BRAEMAR, (Aberdeen.) James Aitken, Banker.	1114	July	28·738	64·9	48·6	56·7	+1·9	75·1	11	38·0	29	57·2	4·2	·346	74
		Aug.	28·610	58·6	45·9	52·2	–1·3	64·9	13	38·8	9	52·4	3·0	·316	80
		Sep.	28·690	55·3	43·1	49·2	–0·3	64·8	18	29·8	21	49·1	2·9	·279	79
LOANHEAD, (Aberdeen.) Alex. Farquharson.	747	July	29·136	67·2	48·8	58·0	+2·2	76·8	11	40·0	28	58·8	3·6	·389	78
		Aug.	29·002	61·9	47·3	54·6	–0·5	69·6	2	41·7	23	54·6	2·4	·359	84
		Sep.	29·084	58·6	43·9	51·2	–0·2	68·0	4	33·0	21	51·3	2·3	·319	84
TILLYPRONIE, (Aberdeen.) Robt. Littlejohn, Gardener to Sir John F. Clark, Bt.	1120	July	28·742	65·3	47·9	56·6	+2·1	79·5	7	41·0	6, 28	55·7	3·7	·343	77
		Aug.	28·610	60·2	46·2	53·2	–0·6	68·5	4	41·0	23	52·0	2·5	·323	83
		Sep.	28·694	57·5	42·8	50·1	+0·5	67·0	4	36·0	21, 30	48·6	2·2	·290	85

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
8·7	13	...	...	...	...	0	0	0	1	19	7	0	6	0	7	5	3	6	24	5	6	3·2
7·6	13	...	...	...	...	0	0	0	1	15	4	0	11	4	7	6	9	3	13	6	3	3·4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	19	2·68	...	0·40	29	0	0	0	...	...	2	1	3	2	9	9	7	6	16	6	4	3·4
...	18	3·50	...	0·60	17	0	0	0	...	...	2	0	9	6	2	6	14	5	7	10	3	3·5
...	16	2·12	...	0·39	11	0	0	0	...	...	1	1	0	10	3	2	21	9	2	11	2	3·8
7·6	13	3·14	+ 0·48	0·56	19	0	0	0	0	16	5	1	5	1	10	5	8	13	15	5	0	4·1
7·8	18	2·73	− 0·09	0·38	17	0	0	1	1	17	2	3	6	5	6	9	9	10	7	10	0	4·4
7·6	22	2·93	− 0·07	0·64	2	0	0	0	0	13	0	3	4	5	5	8	9	11	7	11	0	5·1
...	14	2·61	+ 0·00	0·40	7, 20	0	0	0	...	...	...	0	0	0	6	4	10	6	32	4	0	3·3
...	20	3·19	+ 0·17	0·56	17	0	0	0	...	...	2	0	2	0	12	4	12	4	24	4	0	3·3
...	22	2·84	− 0·48	0·78	2	0	0	0	...	...	0	2	2	4	12	4	10	8	18	2	0	3·1
...	16	1·75	− 0·89	0·44	9	0	0	2	...	...	2	0	7	2	20	4	6	12	2	7	2	1·8
...	19	3·15	+ 0·48	0·90	3	0	0	1	...	...	0	0	10	5	8	8	3	5	17	5	1	2·2
...	16	2·11	− 0·52	0·30	9	0	0	0	...	...	0	2	6	2	1	12	3	6	16	11	3	2·6
7·4	26	2·80	− 0·10	0·47	21	0	0	4	0	11	1	0	0	2	12	4	0	3	19	19	3	2·4
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8·2	23	5·96	+ 0·27	0·76	31	0	0	1	1	22	0	0	2	0	7	0	0	0	52	0	1	3·2
8·3	24	8·01	+ 0·79	1·18	12	0	1	0	0	19	0	0	11	1	17	0	0	0	32	0	1	3·0
6·4	26	11·12	+ 2·48	1·33	9	0	0	0	4	13	0	0	9	1	12	0	0	0	38	0	0	3·0
7·2	14	2·72	− 0·30	0·50	29	0	0	0	2	13	6	0	10	2	2	3	3	11	22	8	1	3·0
6·7	17	2·76	− 0·96	0·73	19	0	0	0	2	12	1	2	7	11	9	1	4	7	15	7	1	3·3
6·2	17	4·31	+ 0·12	0·80	2	0	0	0	1	9	3	0	5	5	2	5	6	12	16	9	0	4·3
7·3	19	1·14	− 1·22	0·28	9	0	0	0	0	11	...	...	...	...	...	...	...	...	...	...	...	...
8·2	21	2·53	− 0·30	0·93	4	0	0	0	0	19	...	...	...	...	...	...	...	...	...	...	...	...
7·6	22	1·71	− 1·35	0·23	12	0	0	0	0	16	...	...	...	...	...	...	...	...	...	...	...	...
4·9	13	2·23	− 0·58	0·75	9	0	0	2	1	4	2	0	1	10	4	1	1	16	22	7	0	1·9
7·0	21	2·94	+ 0·28	1·02	4	0	0	2	1	13	4	0	1	14	4	1	1	19	14	6	2	1·5
6·8	16	1·37	− 1·26	0·23	26	0	0	0	2	12	3	1	2	9	3	0	2	13	25	6	0	2·1
7·0	16	2·75	− 0·23	0·39	9	0	0	1	2	10	1	1	1	9	0	0	10	30	2	1	9	3·1
7·6	21	3·52	− 0·17	0·70	9	0	0	1	1	11	1	0	0	21	0	2	6	23	2	0	8	2·6
6·7	18	3·40	− 0·65	1·00	7	0	0	0	0	7	1	2	0	13	0	4	6	25	4	1	7	2·6
7·4	15	1·96	− 1·04	0·43	22	0	0	3	0	12	0	0	5	5	0	8	3	19	9	13	0	1·2
7·7	23	3·09	− 0·28	0·45	3	0	0	2	0	15	0	0	3	6	3	6	6	23	7	8	0	1·5
7·2	19	2·26	− 0·68	0·36	26	0	0	0	0	11	0	0	3	7	0	10	6	24	4	6	0	1·6
6·3	18	2·19	− 0·55	0·60	12	0	0	1	1	4	1	0	1	0	0	12	1	32	4	12	0	0·9
7·6	22	4·02	+ 0·29	0·70	3	0	0	0	0	12	2	0	1	18	0	12	3	20	1	7	0	0·7
7·1	16	1·97	− 1·19	0·46	8	0	0	1	1	9	0	2	1	10	3	1	0	36	4	5	0	1·4
7·8	13	2·82	− 0·15	0·84	20	0	0	3	2	16	0	0	2	2	0	4	0	10	8	5	31	0·6
7·8	19	3·94	+ 0·72	1·00	3	0	0	1	1	18	0	0	2	6	4	9	0	10	7	8	16	1·0
6·6	17	1·88	− 0·74	0·49	26	0	0	0	2	13	0	0	4	2	2	7	0	14	5	9	17	1·2
7·4	18	2·99	− 0·20	0·66	21	0	0	3	1	3	4	0	0	3	0	12	1	24	3	19	0	2·8
8·1	21	3·14	− 0·25	0·63	9	0	0	0	0	19	6	0	0	9	0	11	0	21	2	19	0	2·9
7·6	17	1·94	− 0·75	0·47	26	0	0	0	0	15	1	4	0	6	0	10	0	19	6	19	0	4·1

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
ABERDEEN, (Aberdeen.) Peter Harper, Superintendent, Duthie Park.	44	July	29·872	67·6	49·6	58·6	+1·3	78·1	21	41·8	23	58·6	3·5	·386	79
		Aug.	29·758	63·4	48·7	56·0	−0·9	67·4	22	40·0	6	56·0	2·6	·375	83
		Sep.	29·848	60·8	45·8	53·3	+0·1	69·2	4	34·8	21	52·7	2·4	·334	84
PETERHEAD, (Aberdeen.) Dr W. H. M'Walter, H.M. Prison.	100	July	29·818	64·9	49·9	57·4	+0·3	73·0	21	44·4	7	56·8	3·0	·375	81
		Aug.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sep.	29·773	58·7	46·3	52·5	−0·8	65·2	1	37·8	30	53·0	3·2	·317	79
CRATHES, (Kincardine.) J. Smith, Pinewood.	145	July	29·774	69·1	47·6	58·3	+1·0	80·0	7	37·0	28	60·1	4·8	·376	73
		Aug.	29·649	62·7	47·5	55·1	−1·2	68·0	13	39·0	9	56·2	3·6	·352	78
		Sep.	29·728	60·0	43·2	51·6	−0·8	68·0	4	29·1	21	52·2	3·2	·308	79
MONTROSE, (Forfar.) (Royal Asylum), Dr John G. Havelock.	200	July	29·728	66·8	50·8	58·8	+1·3	78·0	21	44·0	19	58·6	4·2	·369	75
		Aug.	29·588	62·1	49·3	55·7	−1·2	68·0	18	42·0	25	54·8	2·2	·368	86
		Sep.	29·681	59·0	46·0	52·5	−0·8	68·0	3,4	36·0	21	51·5	2·2	·324	85
ARBROATH, (Forfar.) James Campbell, "For the Natural History Assoc. of Arbroath."	68	July	29·871	66·9	51·4	59·1	+1·6	79·0	21	44·0	19	59·1	3·6	·393	78
		Aug.	29·732	62·8	49·7	56·2	−0·9	71·0	13	42·0	31	56·0	2·3	·383	85
		Sep.	29·832	60·4	46·7	53·5	0·0	71·0	3	39·0	21	52·9	2·3	·339	85
DUNDEE, Eastern Necropolis, (Forfar.) J. Carnochan, Curator.	164	July	29·766	70·2	52·2	61·2	+2·5	81·7	21	44·3	28	59·7	3·6	·402	79
		Aug.	29·626	64·7	49·4	57·0	−0·5	69·4	8, 13	38·5	31	55·4	2·5	·368	86
		Sep.	29·720	60·5	46·3	53·4	−0·1	69·1	3	36·5	21	51·8	2·4	·323	84
DUNDEE, Harbour, (Forfar.) J. Thompson, Jr., Harbour Trust.	20	July	29·927	68·9	52·1	60·5	+1·2	78·0	21	43·2	8	61·0	3·7	·419	79
		Aug.	29·787	63·9	52·2	58·0	−1·0	69·0	2	43·8	31	57·5	2·7	·394	83
		Sep.	29·884	60·4	49·4	54·9	+0·1	70·2	3	42·0	20, 30	51·3	2·5	·345	83
LEDNATHIE, (Forfar.) Wm. Morrison, Gardener to Patrick Stormonth Darling.	720	July	29·168	67·2	47·0	57·1	+1·1	76·8	20	36·0	28	57·4	3·7	·365	77
		Aug.	29·031	61·4	45·0	53·2	−1·5	67·8	14	32·0	31	53·7	2·9	·334	81
		Sep.	29·127	58·3	41·5	49·9	−0·9	68·0	3	30·8	21	50·5	2·6	·302	82
BALRUDDERY, (Forfar.) R. Cairns, Gardener to J. Martin White.	280	July	29·640	69·6	50·1	59·8	+1·8	80·0	21	41·0	6, 28	59·5	4·4	·377	74
		Aug.	29·500	64·3	46·6	55·5	−1·5	69·0	14	37·0	31	55·5	3·3	·349	79
		Sep.	...	...	...	...	...	...	...	...	...	...	...	...	...
PERTH, (Perth.) John Leslie, Gardener to Henry Coates.	105	July	29·832	70·4	49·8	60·1	+1·7	80·0	10	39·0	19, 27	59·3	2·8	·418	83
		Aug.	29·700	64·4	47·6	56·0	−1·6	71·0	2	37·0	31	55·1	2·1	·378	88
		Sep.	29·795	60·2	44·4	52·3	−1·0	69·5	3	30·0	21	51·2	1·9	·328	87
STRONVAR, (Perth.) D. L. Mackintosh, Gardener to James Carnegie.	422	July	29·508	69·4	50·3	59·8	+2·8	78·0	1	41·0	27	58·3	2·4	·414	84
		Aug.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sep.	...	...	...	...	...	...	...	...	...	...	...	...	...
CLATHICK, (Perth.) Alex. Hendry.	300	July	29·632	71·0	50·1	60·6	+2·8	82·0	11	40·8	27	59·3	4·2	·380	75
		Aug.	29·494	64·9	48·1	56·5	−0·3	71·0	20	39·0	31	56·0	3·2	·360	80
		Sep.	29·586	61·6	44·5	53·0	+0·2	69·0	3	32·4	21	51·8	2·8	·313	81
CUPAR, (Fife.) Dr Turnbull, Fife and Kinross District Asylum.	210	July	29·730	68·7	51·8	60·2	+2·4	76·0	20, 21	43·0	6, 27	60·0	4·0	·395	76
		Aug.	29·583	63·0	48·6	55·8	−1·0	68·0	4, 14	40·0	31	55·3	3·3	·346	79
		Sep.	29·685	59·2	46·6	52·9	0·0	68·0	3	38·0	26	52·7	3·0	·320	80
DUNFERMLINE, (Fife.) Dr J. Macdonald, High School.	225	July	...	...	...	...	...	...	...	...	...	...	...	...	...
		Aug.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sep.	...	...	...	...	...	...	...	...	...	...	...	...	...
BUCHLYVIE, (Stirling.) Rev. John A. Macdonald.	125	July	29·826	69·8	51·6	60·7	+3·3	78·0	9, 11	42·0	9	59·9	2·9	·424	83
		Aug.	29·678	64·4	48·1	56·2	−0·8	70·0	15, 24	38·0	31	56·0	2·4	·331	85
		Sep.	29·788	60·4	44·5	52·4	−1·1	65·5	3	30·5	21	51·6	1·9	·333	87

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
6·1	13	1·78	− 1·10	0·38	2	0	0	5	1	5	4	0	2	5	6	13	13	11	7	5	0	1·0
6·7	22	3·24	+ 0·13	0·85	3	0	0	2	3	10	1	2	1	5	2	10	10	16	7	11	0	3·0
5·6	17	1·94	− 0·83	0·42	25	0	0	0	1	3	1	1	1	9	2	6	8	17	1	14	2	2·2
7·2	14	2·82	+ 0·25	0·82	2	0	0	0	1	15	5	0	7	0	2	8	9	6	7	8	15	1·5
...	...	2·09	− 0·71	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6·1	16	1·84	− 1·12	0·70	26	0	0	0	4	9	0	0	8	3	5	6	19	3	1	6	9	1·6
6·2	15	1·70	...	0·42	2	0	0	5	4	7	2	0	0	2	5	14	1	7	15	9	9	2·4
7·1	20	3·39	...	1·06	3	0	0	1	3	16	3	0	6	8	4	2	5	11	11	9	6	2·9
5·9	15	2·03	...	0·80	26	0	0	0	5	9	0	2	3	6	3	5	9	14	7	8	5	3·0
...	8	1·30	− 1·62	0·38	12	0	0	2	...	...	1	2	2	7	13	1	7	15	13	4	0	3·5
...	17	3·32	+ 0·18	0·98	3	0	1	1	...	...	0	3	7	7	7	6	7	10	9	9	0	3·9
...	11	1·51	− 1·18	0·44	26	0	0	0	...	...	1	3	10	5	2	8	2	14	17	2	0	3·9
5·4	12	1·57	− 1·12	0·41	12	0	0	3	3	4	2	0	5	8	5	3	1	4	33	3	0	1·4
6·2	19	3·03	+ 0·15	0·54	3	0	1	1	1	9	0	0	4	8	8	6	2	8	16	9	1	1·8
5·1	14	1·14	− 1·24	0·34	26	0	0	0	3	4	1	1	7	3	2	5	2	15	20	4	2	2·0
7·8	15	1·41	− 1·48	0·31	12	0	0	1	0	14	0	0	1	3	4	9	0	19	19	7	0	1·6
8·7	17	3·52	+ 0·28	0·75	3	0	0	1	0	17	0	0	0	7	6	14	0	11	13	11	0	1·7
8·1	16	1·21	− 1·36	0·46	26	0	0	0	0	18	0	0	0	11	2	7	0	22	9	9	0	2·3
5·9	16	1·30	...	0·30	12	0	0	...	0	7	1	0	1	4	10	6	0	16	22	3	0	2·7
6·9	18	3·40	...	0·95	3	0	0	2	1	11	0	2	2	3	15	5	0	8	18	9	2	2·9
5·4	16	1·19	...	0·56	26	0	0	0	3	2	0	0	4	3	11	2	0	10	24	6	0	3·0
5·9	15	1·60	− 1·98	0·30	12	0	0	3	2	7	0	6	3	0	1	8	4	6	31	6	3	3·7
7·4	19	3·15	− 0·72	1·24	3	0	0	2	0	13	0	5	5	9	5	6	2	5	18	11	1	3·5
6·1	12	2·17	− 1·45	0·47	24	0	0	3	2	5	1	7	3	5	6	2	6	8	20	8	2	3·7
4·6	10	1·31	...	0·40	12	0	0	2	5	3	1	0	0	0	3	2	0	5	45	7	0	1·6
5·7	14	3·38	...	0·71	4	0	0	3	2	7	0	0	0	5	9	4	0	9	25	10	0	2·6
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5·0	10	1·24	− 1·78	0·39	22	0	0	2	6	5	0	0	2	0	2	1	1	0	43	0	13	1·0
5·8	17	3·03	− 0·28	0·53	3	0	0	0	6	11	0	1	3	0	7	8	0	6	24	2	12	0·8
5·5	11	1·44	− 1·39	0·57	26	0	0	0	3	8	0	0	1	1	9	2	3	7	18	4	15	1·2
...	20	3·35	− 1·27	0·72	9	0	0	1	...	...	0	0	2	0	14	2	0	14	20	10	0	3·0
...	22	7·44	+ 1·59	1·20	4	0	0	0	...	...	0	0	0	8	6	0	0	4	24	20	0	4·9
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7·0	15	2·20	− 1·01	0·49	21	0	0	1	2	13	0	0	0	0	2	3	7	17	25	8	0	3·3
7·8	21	4·54	+ 0·62	0·99	4	0	0	2	0	17	0	2	10	0	12	7	3	8	16	6	0	3·4
6·8	18	2·07	− 1·27	0·55	8	0	0	0	2	9	1	1	7	9	13	0	7	8	7	9	0	3·4
4·3	12	0·71	− 1·88	0·24	13	...	...	...	2	1	...	0	10	0	17	0	2	5	22	6	0	1·6
6·0	11	1·91	− 1·20	0·40	5	...	...	...	0	6	...	0	3	7	21	1	0	1	23	6	0	1·8
5·0	14	1·17	− 1·67	0·30	28	...	...	...	0	2	...	0	7	3	14	0	3	3	20	10	0	1·8
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5·1	25	3·15	+ 0·01	0·65	29	0	0	1	2	3	0	0	1	0	4	3	0	6	30	17	1	2·0
6·1	24	6·51	+ 1·81	1·19	4	0	0	3	3	9	0	0	0	2	15	4	0	10	21	9	1	1·8
4·4	19	3·51	− 0·77	0·80	6	0	0	0	4	2	1	2	0	2	8	5	0	14	19	10	2	3·0

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of A. Maximum.	Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
HELENSBURGH, (Dumbarton.) J. R. Wilson, Waterworks.	18	July	...	...	51·7	...	...	...	...	42·8	19	...	...	...	...
		Aug.	...	61·9	49·7	55·8	-1·3	67·2	15	42·5	31	...	...	..	...
		Sept.	...	59·5	47·0	53·3	-0·2	65·4	7	37·0	27	...	...	..	...
DUMBARTON, (Dumbarton.) William Denny and Brothers.	27	July	29·943	68·9	53·7	61·3	+3·0	77·8	9	45·2	19	60·2	3·7	·407	78
		Aug.	29·789	64·4	50·8	57·6	-0·2	70·3	16	40·2	31	56·6	3·2	·367	79
		Sept.	29·900	60·4	47·8	54·1	-0·2	65·9	5	35·0	21	53·3	2·8	·331	81
LOCHBUIE, (Argyll.) J. T. Mannary, Gardener to The Maclaine of Lochbuie.	20	July	29·953	63·7	52·3	58·0	+1·0	72·5	1	48·5	29	57·0	2·9	·380	82
		Aug.	29·796	62·7	51·2	57·0	+0·3	68·0	16	45·0	24	55·8	3·0	·363	81
		Sept.	29·907	59·4	49·6	54·5	+0·6	65·1	25	40·9	21	53·6	2·0	·355	86
AIRDS, (Argyll.) Colonel Macfie, C.B., and Alexander M'Lachlan.	15	July	29·946	63·2	51·5	57·4	+0·6	79·0	1	41·0	4	57·8	2·8	·395	82
		Aug.	29·802	61·6	49·7	55·7	-1·1	69·0	16	40·0	18	55·5	3·0	·357	81
		Sept.	29·902	58·4	57·0	52·7	-1·0	63·0	6, 8	40·0	15, 21	53·9	2·5	·346	84
POLTALLOCH, Lochgilphead (Argyll.) D. S. Melville, Gardener.	135	July	29·826	68·5	51·8	60·1	+2·3	81·0	1, 2	43·0	19	57·4	3·2	·379	80
		Aug.	29·666	65·7	48·8	57·3	+0·4	74·0	16	43·0	15	55·0	1·9	·378	88
		Sept.	...	...	45·5	...	...	...	...	34·0	26	52·0	1·8	·340	87
ROTHESAY, Glenburn Hydropathic, (Isle of Bute.) R. Henderson and D. Penney.	76	July	29·889	67·5	52·9	60·2	+2·8	74·0	1, 10	44·0	26, 27	59·2	2·8	·417	83
		Aug.	29·734	63·4	49·1	56·3	-0·4	68·0	15	42·0	25	56·0	2·4	·381	85
		Sept.	29·845	59·3	46·4	52·9	-0·8	63·0	5	37·0	26	52·8	2·5	·333	83
GREENOCK, (Renfrew.) Daniel Macalister, C.E., Waterworks.	238	July	29·721	67·2	52·3	59·8	+2·4	74·5	11	44·0	6	59·3	3·7	·393	78
		Aug.	29·576	62·6	49·6	56·1	-1·0	67·5	25	43·5	31	55·6	3·1	·357	80
		Sept.	29·676	58·9	46·5	52·7	-0·7	62·2	8	41·0	15	52·9	2·8	·326	82
PAISLEY, (Renfrew.) Donald Maclean, The Coats Observatory.	107	July	29·852	69·9	54·0	62·0	+3·3	77·2	8	46·1	6	60·8	3·8	·413	78
		Aug.	29·695	65·2	50·8	58·0	0·0	72·0	24	43·1	31	56·6	3·2	·367	79
		Sept.	29·803	61·4	47·5	54·5	+0·1	66·9	4	35·0	21	53·6	2·9	·333	80
BOWHILL, (Ayr.) Alexander Gillespie, C.E.	978	July	28·939	63·1	49·3	56·2	+2·4	76·0	9	43·0	3	56·0	2·0	·391	87
		Aug.	28·782	58·5	46·0	52·3	-1·0	67·0	15	42·0	31	52·3	2·3	·331	84
		Sept.	28·891	54·7	42·1	48·4	-1·4	60·0	4	37·0	30	49·0	1·8	·303	87
KILMARNOCK, (Ayr.) Glenfield & Kennedy, Ltd.	74	July	29·908	67·3	51·4	59·4	...	80·0	9	39·0	6	59·1	3·9	·384	76
		Aug.	29·730	62·6	48·7	55·7	...	70·0	15	34·5	31	56·6	3·0	·373	81
		Sept.	29·858	59·2	45·8	52·5	...	65·0	4	31·0	26	52·4	2·5	·329	81
GLASGOW, Belvidere Hosp., (Lanark.) Dr John Brownlee.	54	July	29·912	68·2	53·5	60·8	+2·0	77·8	9	44·8	29	61·1	3·8	·418	78
		Aug.	29·756	64·0	49·8	56·9	-1·2	69·2	15	43·8	15	57·5	3·9	·362	77
		Sept.	29·868	59·6	46·5	53·1	-1·2	65·2	4	34·5	21	53·0	2·8	·327	81
GLASGOW, Observatory, (Lanark.) Prof. Becker, F.R.S.E.	184	July	29·770	66·5	53·9	60·2	+1·9	73·7	11	46·8	6	59·2	3·7	·392	78
		Aug.	29·614	61·8	51·1	56·4	-1·0	65·8	24	46·2	15	55·7	3·2	·356	80
		Sept.	29·724	57·6	47·8	52·7	-1·2	62·5	5	39·9	21	52·2	2·7	·321	82
BOTHWELL, (Lanark.) Dr John T. Wilson.	150	July	...	68·3	52·5	60·4	...	77·0	11	43·0	29	60·1	4·0	·397	77
		Aug.	...	63·5	49·1	56·3	...	68·0	9	36·0	31	55·5	2·9	·360	82
		Sept.	...	59·3	45·4	52·3	...	66·0	4	32·0	21	51·0	2·3	·316	84
LEADHILLS, (Lanark.) James M'Farlane.	1300	July	...	64·0	48·7	56·4	...	77·0	9	40·0	6	55·8	2·6	·373	83
		Aug.	...	61·7	46·1	53·9	...	68·0	24	39·5	28	54·3	2·4	·354	83
		Sept.	...	56·3	37·7	47·0	...	60·1	3, 17	31·5	25	46·4	1·6	·279	89
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. Copeland, F.R.S.E.	441	July	29·490	67·0	52·7	59·9	+3·2	75·9	21	41·4	30	59·0	3·8	·385	77
		Aug.	29·335	62·5	50·0	56·2	+0·3	67·8	4	42·4	31	55·1	3·3	·343	79
		Sept.	29·439	58·0	47·1	52·5	+0·3	64·7	4	39·8	30	52·0	3·0	·310	80

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0-10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0-12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	23	3·48	+0·16	0·75	29	...	...	...	...	...	...	...	14	0	2	0	24	18	4	0	0	...
...	19	4·95	+1·00	0·77	4	...	...	...	...	...	...	...	16	0	16	0	10	0	20	0	0	...
...	19	2·11	-2·02	0·42	1	...	...	...	...	...	...	...	10	0	6	0	28	0	16	0	0	...
...	23	2·98	-0·18	0·68	11	...	...	...	...	...	...	...	4	0	2	2	4	12	18	6	14	1·4
...	20	5·65	+1·62	1·17	7	...	...	..	...	...	...	...	6	6	6	6	10	6	4	4	14	1·8
...	17	2·36	-1·72	0·46	10	...	...	...	...	...	...	...	6	6	6	4	8	10	6	12	2	2·1
7·3	22	7·08	...	1·27	11	0	0	1	4	15	0	0	2	2	0	0	0	34	10	4	10	2·5
6·4	19	6·01	...	0·80	19	0	0	0	3	12	0	1	8	6	20	4	4	12	4	2	2	3·2
5·7	19	7·98	...	1·17	?	0	1	0	5	11	0	2	2	8	10	0	8	12	12	4	4	3·7
8·0	11	5·82	+1·38	...	...	0	0	1	1	18	1	0	11	0	2	2	5	12	30	0	0	2·0
8·6	12	4·93	-0·37	...	...	0	0	0	0	23	0	0	9	3	14	3	8	2	22	1	0	2·3
7·6	11	10·95	+5·29	...	...	0	0	0	1	16	0	0	5	2	12	5	4	8	22	2	0	2·6
8·0	25	4·76	+0·59	0·58	21	0	0	1	1	16	1	0	2	1	1	0	3	12	9	6	28	1·2
7·8	24	5·46	+0·72	1·57	4	0	0	0	0	17	0	0	2	3	5	4	4	8	11	2	23	2·0
6·8	22	5·28	+0·07	1·00	11	0	0	0	0	8	0	0	4	4	5	8	0	17	17	5	0	2·9
7·6	18	3·42	-0·47	0·76	11	0	0	2	3	17	0	0	2	1	4	1	1	12	30	4	7	1·0
7·6	22	5·82	+1·07	1·19	4	0	0	3	2	17	2	0	4	7	12	1	3	4	22	4	5	1·2
6·4	21	3·87	-0·65	0·58	2	0	0	0	4	11	0	1	4	5	8	0	4	7	23	4	5	1·5
6·8	21	3·99	+0·11	0·65	11	0	0	1	1	8	0	0	0	0	3	5	0	11	34	9	0	2·2
7·4	21	6·17	+0·71	1·38	4	0	0	1	0	12	0	1	0	4	6	13	0	10	18	11	0	2·0
6·8	18	2·93	-2·85	0·41	10	0	0	0	2	9	0	0	2	3	0	14	0	22	13	6	0	2·4
7·2	18	2·51	-0·29	0·60	11	0	0	1	2	14	0	0	5	0	5	1	2	0	32	8	9	1·3
7·5	20	4·13	+0·64	0·77	4	0	0	3	1	15	1	0	7	2	14	1	6	0	14	5	13	1·4
6·1	19	2·52	-1·18	0·85	6	0	0	0	2	11	2	0	2	5	6	3	6	2	22	7	7	2·0
7·4	19	3·68	...	0·57	12	...	...	...	0	4	...	...	1	0	2	0	14	12	26	7	0	1·8
7·6	22	4·73	...	0·80	4	...	...	...	0	6	...	...	7	4	4	10	12	4	12	9	0	2·0
7·2	17	2·93	...	0·78	2	...	...	...	0	6	...	...	6	7	3	7	9	9	10	9	0	2·0
...	19	3·38	...	0·67	11	0	0	0	...	...	0	0	1	0	3	3	1	8	40	4	2	1·9
...	20	4·28	...	0·71	17	0	0	0	...	...	0	0	0	1	15	7	3	15	16	5	0	2·1
...	15	4·34	...	0·81	6	0	0	0	...	...	0	0	0	4	12	6	0	15	20	3	0	2·2
7·5	20	2·55	-0·44	0·45	11	0	0	1	0	12	0	0	1	0	7	0	1	11	27	3	12	1·5
8·3	19	3·14	-0·34	0·75	4	0	0	0	0	15	0	0	2	2	15	0	3	3	15	1	21	1·0
7·1	16	1·86	-1·42	0·53	6	0	0	0	0	10	1	0	3	3	11	0	0	4	17	7	15	1·1
8·0	19	2·96	-0·22	0·59	11	0	0	1	0	16	0	0	0	1	5	0	0	28	22	1	5	2·4
8·1	21	4·06	+0·21	0·92	4	0	0	3	0	17	0	3	1	12	4	2	4	17	15	3	4	2·6
7·4	14	2·70	-0·82	1·16	6	0	0	0	1	13	0	0	1	11	4	1	2	16	18	2	5	2·8
...	15	3·33	+0·58	1·25	9	0	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	17	2·46	-0·46	0·49	18	0	0	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	13	2·35	-0·12	0·48	12	0	0	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	22	4·51	...	0·74	29	0	2	5	...	..	0	2	...	...	...	...	...	...	...	...	...	...
...	21	6·71	...	1·11	4	0	0	1	...	...	0	0	...	...	...	...	...	...	...	...	...	...
...	19	4·15	...	0·88	6	0	0	0	...	...	0	2	...	...	...	...	...	...	...	...	...	...
6·3	15	1·45	-1·15	0·25	2	0	0	2	1	5	1	0	4	2	1	1	2	9	37	4	2	2·6
6·9	18	2·46	-0·26	0·43	28	0	0	0	1	8	1	0	5	5	5	6	3	10	21	5	2	2·6
5·9	13	1·24	-0·93	0·45	27	0	0	0	5	9	1	2	5	5	4	3	3	18	16	3	3	3·3

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of A. Maximum.	Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
CORSTORPHINE, (Edinburgh.) Dr T. N. JOHNSTON, F.R.S.E.	165	July	29·783	68·2	52·1	60·1	+2·7	76·5	11	[illegible]	29	59·3	4·0	·385	76
		Aug.	29·630	63·5	48·3	55·9	−0·1	67·9	4, 20	37·6	31	55·3	3·1	·351	80
		Sep.	29·732	59·8	45·7	52·8	−0·2	66·2	8	30·9	21	52·0	2·9	·313	81
LEITH, (Edinburgh.) JAMES BOLAM, Nautical College, and GEORGE REDPATH.	76	July	29·881	68·5	54·8	61·6	+3·1	78·8	14	45·4	6	60·5	3·9	·406	78
		Aug.	29·727	64·5	51·5	58·0	+0·3	71·0	5	43·4	31	56·8	3·1	·372	80
		Sep.	29·830	60·3	49·4	54·8	+0·5	65·9	7	39·9	21	53·9	3·1	·331	80
DALKEITH, (Edinburgh.) J. WHYTOCK, Gardener to the Duke of Buccleuch.	190	July	29·764	68·6	52·8	60·7	+2·7	79·2	11	44·0	19	60·5	4·3	·395	75
		Aug.	29·618	64·4	48·3	56·4	−0·6	72·5	17	38·0	31	56·4	3·6	·330	72
		Sep.	29·715	59·7	46·8	53·2	−0·2	67·5	4	33·5	21	52·5	2·7	·324	82
SMEATON, (Haddington.) JOHN BLACK, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	July	29·862	70·1	52·0	61·1	+1·7	84·0	14	44·0	28	62·0	4·1	·424	77
		Aug.	29·706	65·0	48·3	56·6	−1·5	71·0	2, 17	38·0	31	55·9	2·2	·386	86
		Sep.	29·803	59·9	46·0	52·9	−1·0	69·0	8	33·0	21	52·5	2·2	·336	85
MARCHMONT, (Berwick.) JOHN A. WOOD, Gardener.	500	July	29·438	68·2	50·9	59·6	+2·7	78·0	9	42·0	29	59·4	4·4	·385	75
		Aug.	29·282	62·6	47·1	54·9	−1·3	69·0	17	43·0	9, 31	55·6	3·3	·352	79
		Sep.	29·384	58·3	44·0	51·2	−1·0	69·0	4	34·0	21	52·2	2·5	·326	83
DUNS CASTLE, (Berwick.) JAMES REDPATH, Gardener to F. S. Hay.	500	July	29·430	69·4	50·4	59·9	+3·0	78·0	9, 21	40·0	28	59·5	4·1	·385	75
		Aug.	29·278	63·0	47·3	55·2	−0·8	68·0	17	43·0	9, 31	55·2	3·0	·352	81
		Sep.	29·381	58·7	44·6	51·7	−0·6	70·0	4	33·0	15	52·1	2·7	·319	80
STOBO CASTLE, (Peebles.) WILLIAM YOUNG.	600	July	29·337	68·2	50·6	59·4	+2·5	85·0	9	38·0	19, 29	58·8	2·7	·413	84
		Aug.	...	63·7	46·4	55·0	−0·9	69·0	4	36·0	31	54·3	2·2	·360	85
		Sep.	...	58·5	42·1	50·3	−1·7	65·0	4	27·0	21	50·2	2·0	·312	86
BROOMLANDS, (Roxburgh.) JAMES BRUNTON.	205	July	29·753	70·3	51·2	60·8	+2·8	83·0	9	40·0	19	60·8	3·6	·419	79
		Aug.	29·601	64·7	47·8	56·3	−0·8	73·0	17	42·0	31	56·8	2·9	·371	81
		Sep.	29·708	60·6	45·1	52·8	−0·5	70·0	4	30·0	21	52·8	2·5	·333	83
WOLFELEE, (Roxburgh.) ARTHUR HUME, Gardener to J. T. S. Elliot.	537	July	29·408	69·6	51·1	60·3	+3·4	84·0	9	40·0	19	59·4	3·4	·402	80
		Aug.	29·249	63·5	46·9	55·2	−0·9	71·0	17	37·0	31	55·0	2·3	·367	85
		Sep.	29·343	58·9	44·5	51·7	−0·9	69·0	4	28·0	21	51·0	...	...	...
DRUMLANRIG, (Dumfries.) DAVID INGLIS, Gardener to the Duke of Buccleuch.	191	July	29·780	69·3	51·6	60·5	+2·5	80·0	9	38·0	28, 29	59·4	3·2	·408	81
		Aug.	29·606	63·8	47·4	55·6	−1·2	71·0	15	36·0	31	55·4	2·1	·379	87
		Sep.	29·728	59·3	44·1	51·7	−1·6	67·0	4	29·0	21	51·5	2·7	·312	82
DUMFRIES, (Dumfries.) Rev. WILLIAM ANDSON.	60	July	29·928	70·8	53·1	62·0	+2·9	84·5	9	41·3	29	61·6	4·8	·398	73
		Aug	29·754	65·0	49·3	57·2	−1·0	75·5	15	39·3	31	57·2	3·8	·359	76
		Sep.	29·865	61·1	46·1	53·6	−1·0	71·0	4	33·0	21	53·2	2·6	·335	83
CARGEN, (Kirkcudbright.) ALEX. PEACOCK, Gardener to Colonel Dudgeon.	85	July	29·905	70·3	52·7	61·5	+2·9	83·0	9	41·0	28, 29	61·6	3·4	·438	80
		Aug.	29·738	64·1	48·5	56·3	−1·4	74·0	15	40·0	31	57·9	2·4	·409	85
		Sep.	29·851	60·9	45·5	53·2	−1·3	69·0	4	33·0	21	54·2	2·2	·358	85
CALLY, (Kirkcudbright.) WM. THOMSON, Gardener to H. G. Murray Stewart of Broughton.	120	July	29·876	68·7	50·1	59·4	+1·3	77·8	9	39·5	28	59·8	2·7	·429	84
		Aug.	29·699	62·7	47·2	55·0	−1·8	69·0	2	36·8	31	55·5	1·7	·392	89
		Sep.	29·827	57·9	44·8	51·4	−2·5	64·7	4	33·7	15	51·4	1·5	·341	90

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
5·9	17	2·12	...	0·59	9	0	0	2	1	4	1	0	2	1	4	0	0	0	46	1	8	1·8
6·1	21	3·09	...	0·59	28	0	0	1	3	8	0	1	2	0	17	0	2	2	25	2	12	1·7
4·4	16	2·07	...	0·50	27	0	0	0	7	4	0	0	4	0	6	1	5	2	33	1	8	2·0
7·6	19	1·93	−1·00	0·28	2	0	0	2	3	18	0	0	6	2	6	0	4	8	30	6	0	3·7
6·1	17	2·81	−0·19	0·50	28	0	0	1	3	9	0	1	6	4	14	2	4	6	20	4	2	1·9
7·1	17	1·67	−0·57	0·42	27	0	0	0	6	12	1	0	4	10	4	4	4	12	20	2	0	4·2
7·2	15	1·55	...	...	...	0	0	2	1	11	0	0	1	1	4	2	1	15	31	7	0	2·2
6·8	18	...	...	...	...	0	0	0	1	11	0	0	3	7	9	3	4	17	18	1	0	2·0
5·9	11	1·30	...	...	...	0	0	0	4	5	0	0	6	5	6	1	2	14	24	4	0	2·2
...	10	2·37	−0·70	1·01	2	0	0	2	...	...	2	1	0	0	7	1	25	19	8	2	0	1·1
...	14	2·90	−0·05	0·59	23	0	0	2	...	...	0	0	3	3	12	2	18	16	7	1	0	1·2
...	14	2·06	−0·23	0·71	27	0	0	0	...	...	0	4	0	7	12	3	6	12	18	2	0	1·4
5·0	9	2·28	−1·06	0·55	11	0	0	6	4	5	0	2	3	2	4	5	10	7	28	3	0	2·8
6·0	18	3·99	+0·28	0·89	26	0	0	2	4	9	0	4	5	7	11	7	3	5	17	7	0	3·1
6·0	16	3·05	+0·14	0·96	27	0	0	0	0	13	0	3	5	4	11	6	8	12	14	0	0	3·7
6·3	13	2·00	−1·06	0·72	2	0	0	4	3	14	0	0	0	1	1	1	0	26	24	9	0	1·0
6·8	22	4·04	+0·93	0·79	26	0	0	3	2	13	0	0	0	0	9	1	5	10	20	17	0	1·0
5·5	17	2·87	+0·02	0·93	27	0	0	1	5	6	0	0	1	1	4	5	4	14	13	18	0	1·4
7·3	14	1·30	−1·45	...	...	0	0	3	1	16	0	0	2	3	3	5	14	16	10	9	0	2·7
6·7	21	3·40	+0·29	...	...	0	0	0	1	10	0	0	4	0	6	6	17	15	12	2	0	3·0
6·2	17	0·90	−1·91	...	...	0	0	0	0	4	0	9	7	2	4	6	13	16	11	1	0	4·1
6·2	14	1·75	−1·07	0·35	29	0	0	2	0	4	0	0	0	0	9	0	1	40	9	1	2	3·5
6·2	20	3·63	+0·75	0·78	26	0	0	0	0	4	0	0	0	6	12	2	1	30	9	0	2	0·9
6·4	18	2·01	−0·41	0·64	27	0	0	0	0	3	0	0	0	2	14	4	1	32	4	0	3	1·8
6·0	10	1·72	−1·37	0·65	2	0	0	1	0	4	0	0	2	3	0	1	1	17	28	10	0	1·1
6·8	18	3·30	−0·11	0·55	10	0	1	1	0	6	0	0	9	7	1	3	9	14	13	6	0	1·4
7·0	18	2·63	−0·44	0·46	27	0	1	0	1	12	0	1	11	5	2	2	5	18	16	6	0	1·7
...	15	1·72	−1·61	0·26	2	0	0	3	...	...	0	0	1	0	0	0	2	24	9	26	0	...
...	17	3·68	−0·24	0·83	4	0	0	1	...	...	0	0	1	9	0	3	5	17	3	24	0	...
...	16	1·80	−2·08	0·24	1	0	0	0	...	...	0	0	1	12	2	4	1	22	4	14	0	...
...	14	2·43	−0·71	1·06	16	0	0	0	...	...	0	0	0	3	1	5	2	27	18	6	0	2·2
...	14	3·05	−0·94	0·51	9	0	0	2	...	...	0	1	3	6	3	8	4	12	13	11	2	2·5
...	16	1·86	−1·71	0·29	13	0	0	0	...	...	0	0	7	10	2	3	1	14	8	15	0	2·6
6·3	8	1·38	−1·80	0·38	29	0	0	2	0	2	0	0	1	1	2	0	10	19	19	10	0	1·4
6·5	14	3·84	−0·21	0·58	17	0	0	2	0	4	0	0	2	7	5	9	11	9	14	5	0	1·4
5·5	16	1·87	−1·88	0·30	9	0	0	0	0	2	0	0	7	7	3	6	11	8	5	13	0	1·6
...	19	3·29	−0·28	0·69	22	0	0	1	...	...	1	0	1	1	1	13	11	17	2	16	0	1·2
...	17	5·20	+0·48	0·73	8	0	0	1	...	...	0	1	6	6	2	10	7	12	2	17	0	1·6
...	18	3·47	−1·17	0·65	1	0	0	0	...	...	0	0	0	16	2	8	0	7	5	14	8	1·9

BRIGHT SUNSHINE.

STATIONS.	1905.	SUNSHINE.		
	Months.	Total Observed.	Difference from Average.	Percentage of Possible.
		hours.	hours.	%
DEERNESS, (Orkney.)	July	159·4	+16·8	30
	Aug.	128·8	+ 9·8	27
	Sept.	133·7	+27·2	35
INVERNESS, (Inverness.)	July	170·3	+24·5	32
	Aug.	94·9	−22·6	20
	Sept.	134·1	+35·2	35
FORT AUGUSTUS, (Inverness.)	July	110·9	+15·6	21
	Aug.	72·6	−16·4	16
	Sept.	90·2	+11·3	24
CRATHES, (Kincardine.)	July	205·2	...	39
	Aug.	118·0	...	25
	Sept.	101·1	...	27
BALRUDDERY, (Forfar.)	July	223·0	...	43
	Aug.	129·3	...	28
	Sept.	...	...	...
PAISLEY, (Renfrew.)	July	137·6	− 6·8	27
	Aug.	104·2	−39·8	23
	Sept.	121·3	+14·3	32
GLASGOW, (Lanark.)	July	164·0	+21·1	32
	Aug.	124·0	− 4·7	27
	Sept.	110·1	+11·8	29
EDINBURGH, (Edinburgh.)	July	208·4	+38·5	40
	Aug.	147·9	−18·8	32
	Sept.	121·5	+ 0·7	32
DUNS CASTLE, (Berwick.)	July	192·8	...	37
	Aug.	133·3	...	29
	Sept.	125·5	...	33
MARCHMONT, (Berwick.)	July	220·8	+48·8	43
	Aug.	136·4	−18·0	30
	Sept.	120·8	+ 6·7	32

UNDERGROUND TEMPERATURE.

STATIONS.		1905.	UNDERGROUND TEMPERATURE.				
		Months.	Depth in Inches.				
			3	12	22	36	48
			°	°	°	°	°
DUNROBIN,	(Sutherland.)	July	58·0	60·7	60·0	...	...
		Aug.	55·2	57·8	57·7	...	...
		Sept.	51·4	54·5	54·3	...	...
ARBROATH	(Forfar.)	July	59·6	58·2	56·7	...	...
		Aug.	56·5	56·2	56·0	...	...
		Sept.	52·4	52·6	53·1	...	...
POLTALLOCH,	(Argyll.)	July	63·0	64·6	64·0	...	...
		Aug.	59·0	60·6	60·7	...	...
		Sept.	52·9	55·2	56·8	...	...
ROTHESAY,	(Bute.)	July	...	...	...	...	..
		Aug.	...	...	...	...	...
		Sept.	...	...	...	...	53·8
PAISLEY,	(Renfrew.)	July	61·5	60·6	60·0	...	...
		Aug.	56·9	56·7	57·3	...	...
		Sept.	52·6	53·0	54·9	...	...
CORSTORPHINE,	(Edinburgh.)	July	60·4	60·4	59·7	56·9	55·6
		Aug.	55·9	57·5	57·6	56·4	56·0
		Sept.	51·2	53·9	54·4	54·1	54·5
SMEATON,	(Haddington.)	July	63·6	63·2	61·7	...	...
		Aug.	59·5	60·0	59·5	...	...
		Sept.	53·6	54·9	55·5	...	...
MARCHMONT.	(Berwick.)	July	61·7	60·0	59·9	...	...
		Aug.	56·8	56·6	57·5	...	...
		Sept.	51·6	52·5	54·0	...	...

Continuation of page 78.]

coldest day of the month, but towards N.W. and N. lowest readings occurred usually about 9th, 15th or 24th. Highest readings were noted between 2nd and 4th, 14th and 17th, or 22nd and 24th. The absolute maximum of 75°·5, at Dumfries on 15th, was low for the month of August, but the minimum, 32°·0 at Lednathie on 31st, about the average.

The mean rainfall was 3·93 inches, or 7 per cent. above the normal. The distribution was rather irregular, the variations ranging from an excess of 40 per cent. at Dumbarton to a deficiency of 40 per cent. at Cupar. There was a slight shortage in Moray and Nairn and in parts of the counties of Inverness, Forfar, Fife and Dumfries, whilst the excess was most decided around the Clyde estuary and towards the South-West. Some heavy falls were reported, and we may note the following:—1·24 inch at Lednathie on 3rd, 1·57 at Poltalloch and 1·38 at Greenock on 4th, 1·17 at Dumbarton on 7th, and 1·18 at Glencarron on 16th. Stronvar registered more than 1 inch on 4th, 17th and 18th. In Southern districts there was a dry spell from 12th to 16th, and in Northern from 14th to 16th: also towards North East from 22nd to 25th.

Thunder at many stations on one or more days, Duns reporting it on 4th, 10th and 23rd, Glasgow on 4th, 6th and 21st, Balruddery on 4th, 9th and 11th, and Aberdeen on 1st and 22nd.

Sunshine below the average on the mainland but slightly above it at Deerness.

The weather of the month was on the whole extremely unsettled, especially around 19th and 26th, when the wind force became rather high.

SEPTEMBER 1905—

Hence the month of SEPTEMBER 1905 was characterised by a slightly high mean barometric pressure; a slightly low mean temperature, with a slightly low mean daily range; a low mean humidity; a low mean rainfall, with 1 more than the average number of days with rain; a slight excess of winds of average force from N.E.

The mean barometric pressure was 29·905 inches, or 0·052 inch above the normal. Cyclonic disturbances were frequent early in the month, and on 7th the barometer fell to 29·0 inches in the North of Scotland. At Leith the sea-level pressure was above 30 inches from 14th to 17th, from 20th to 23rd, and from 28th to 30th, the extremes there being 30·304 inches on 17th and 29·150 inches on 7th.

The mean temperature was 52°·2, or 0°·6 below the normal, the days being 0°·9 and the nights 0°·4 below their respective averages. At a few scattered stations, such as Leith, Aberdeen and Inverness, temperature was equal to or above the average, but at most, and particularly towards the South-West, the month was colder than usual. Some fairly high temperatures occurred early in the month, especially on 3rd and 4th, but after the 9th the weather was markedly cooler with lowest readings in most districts on 21st, when a good many stations, including Crathes, Perth, Broomlands and Drumlanrig, registered frost in shade. The absolutely highest temperature was 71°·0 at Arbroath on 3rd and Dumfries on 4th, and the lowest 27°·0 at Stobo on 21st.

The mean rainfall was 2·76 inches, or 22 per cent. below the normal. In Berwickshire and at Poltalloch the average amount was recorded, whilst Glencarron had an excess of 30 per cent. and Airds, with more than 10 inches for the month, nearly twice its normal. But in most districts there was a large deficiency which was perhaps most marked in the counties of Forfar, Perth, Fife and Dumfries, these having only about half their average rainfalls. The first ten days of the month were very wet with heavy falls in the West. Thus Glencarron registered more than 1 inch on 1st, 2nd, 7th, 9th and 10th, whilst we may note a fall of 1·00 inch at Glasgow observatory on 6th, at Fort-William 1·41 on 9th, and at Glenquoich 1·63 on 3rd and 2·03 on 8th. From 13th until the end of the month but little rain fell in the West, but in the East some considerable falls took place after the 23rd, and on 26th and 27th heavy falls in East Lothian and Berwickshire caused damage to crops.

Thunder at Duns on 5th, at Braemar on 7th, and at Lednathie on 5th, 6th and 7th.

Sunshine above the average, especially towards the North.

From 1st to 10th strong S.W. winds prevailed. Thereafter the weather was of a settled character until about the 23rd, after which N.E. winds adversely affected conditions in the East.

Auroras observed in Shetland on 5th, 18th, 19th, 22nd and 25th.

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 31st DECEMBER 1905.

By Dr Buchan, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 58 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE – 56° 33′ N.; MEAN LONGITUDE – 3° 45′ W.; AND MEAN ELEVATION –279 Feet.

1905.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
Oct.	29·970	50·3	37·1	43·7	67·0	19·0	43·1	2·1	·233	83	18	3·64	6·2	*
Nov.	29·632	44·7	34·9	39·8	56·5	5·2	39·5	1·4	·214	89	20	5·07	6·7	
Dec.	30·010	46·3	37·9	42·1	58·9	14·0	42·3	1·8	·232	87	17	2·77	6·9	*

1905.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
Oct.	43·1	45·7	47·5	48·8	49·9	11	5	4	2	2	6	12	15	5	2·4	6	1
Nov.	39·6	41·1	42·7	43·5	45·8	3	4	5	3	2	4	4	3	2	2·6	9	2
Dec.	40·7	41·3	41·9	41·7	44·0	2	2	5	5	9	16	16	4	3	2·9	9	1

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these results are compared with the averages of 1856–1905, during the same months, they show the following characteristics and differences :—

OCTOBER 1905—

Mean Barometric Pressure, 29·970 inches ; greater than the average of 1856–1905 by 0·156 inch.
Mean Temperature, 43°·7 ; less by 2°·8.
Mean Daily Range of Temperature, 13°·2 ; greater by 1°·1.
Mean Humidity, 83 per cent. ; less by 4 per cent.
Rain, Number of Days, 18 ; greater by 1 day.
Rain, Depth in Inches, 3·64 ; less by 0·40 inch.
Wind, Mean Force (on Scale of 0–12), 2·4 ; less by 0·4.
Wind, Direction of : a 7 days' excess of winds from N.W. and N.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·2 ; less by 0·2.

NOVEMBER 1905—

Mean Barometric Pressure, 29·632 inches ; less than the average of 1856–1905 by 0·202 inch.
Mean Temperature, 39°·8 ; less by 1°·1.
Mean Daily Range of Temperature, 9°·8 ; less by 0°·6.
Mean Humidity, 89 per cent. ; greater by 1 per cent.
Rain, Number of Days, 20 ; greater by 3 days.
Rain, Depth in Inches, 5·07 ; greater by 1·27 inch.
Wind, Mean Force (on Scale of 0–12), 2·6 ; less by 0·2.
Wind, Direction of : a 4 days' excess of winds from between N.E. and S.E.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·7 ; greater by 0·2.

DECEMBER 1905—

Mean Barometric Pressure, 30·010 inches; greater than the average of 1856–1905 by 0·230 inch.
Mean Temperature, 42°·1; greater by 4°·0.
Mean Daily Range of Temperature, 8°·4; less by 1°·1.
Mean Humidity, 87 per cent.; less by 1 per cent.
Rain, Number of Days, 17; being the average.
Rain, Depth in Inches, 2·77; less by 1·36 inch.
Wind, Mean Force (on Scale of 0–12), 2·9; greater by 0·1.
Wind, Direction of: a 4 days' excess of winds from between S. and W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·9; greater by 0·4.

OCTOBER 1905—

Hence the month of OCTOBER 1905 was characterised by an extremely high mean barometric pressure; an extremely low mean temperature, with a high mean daily range; a low mean humidity; a slightly low mean rainfall, with one more than the average number of days with rain; a very large excess of moderate winds from N.W. and N.

The mean barometric pressure was 29·970 inches, or 0·156 inch above the normal. A deep depression influenced the weather around 3rd and 4th, and depressions of varying depth were in evidence from 25th onwards. At Leith the sea-level pressure was above 30 inches from 6th to 13th, and from 18th to 25th, the extremes there being 30·519 inches on 10th, and 29·060 inches on 30th.

The mean temperature was 43°·7, or 2°·8 below the normal, the days being 2°·3 and the nights 3°·4 below their respective averages. The month was the coldest October since 1896, the nights being especially cold, and the temperature deficiency well marked in all districts. Some fairly warm weather was experienced during the second week, but thereafter until about 25th temperature remained exceedingly low under the influence of northerly winds; indeed in some districts the week ending 21st had a mean temperature as much as 7°·0 below the average. About one-third of the stations had shade temperatures below 25°·0 on one or more days between 16th and 20th, and Perth, for example, had frost in shade each day from 15th to 25th. The absolute maximum was 67°·0 at Arbroath on 9th, and Clathick on 10th, and the minimum 19°·0 at Leadhills on 16th, and Stronvar on 20th. We note also shade readings of 20°·0 at Drumlanrig on 20th, and Kilmarnock on 22nd.

The mean rainfall was 3·64 inches, or 10 per cent. below the normal. In the Moray Firth area and in the extreme Northerly counties rainfall was above the average, the excess in Banffshire being very large, as much as 83 per cent. at Gordon Castle. At Aberdeen, Braemar, Arbroath, Smeaton, Broomlands, and Cally the normal amount was registered, but elsewhere there was a shortage of varying amount. Glencarron had 30, Deerness 29, and Gordon Castle 27 days with rain. Heavy falls occurred in the West on 3rd, Bowhill (Ayrshire) having 1·75 inch, Lochbuie 1·54 inch, and Fort-William 1·37 inch. Heavy falls were registered also at the end of the month, Inverness, Braemar, Arbroath, and Lednathie all having 1 inch or more on 30th or 31st. Except in Northern and South-Eastern districts hardly any rain fell between 16th and 24th.

The weather was of an unsettled character early in the month and towards the close, with showers of snow, sleet, or hail in many districts between 14th and 20th.

Thunder occurred at Braemar, Marchmont, and a few other stations on 30th.

Sunshine was of irregular distribution, but the third week was everywhere exceptionally sunny.

NOVEMBER 1905—

Hence the month of NOVEMBER 1905 was characterised by an extremely low mean barometric pressure; a low mean temperature, with a somewhat low mean daily range; a mean humidity about the average; a very high mean rainfall, with a large number of days with rain; a large excess of moderate winds from an Easterly quarter.

The mean barometric pressure of 29·632 inches, or 0·202 inch below the normal, was the lowest mean for November since 1883. Depressions were frequent and considerable, the deepest occurring on 26th, when the sea-level pressure in the South of Scotland fell to 28·7 inches. At Leith pressure reached 30 inches on 8th, 9th, 17th, 18th, 20th, 21st, and 29th, the extremes there being 30·245 inches on 17th, and 28·703 inches at 4 p.m. on 26th.

The mean temperature was 39°·8, or 1°·1 below the normal, the days being 1°·4 and the nights 0°·8 below their averages. The temperature deficiency was well marked in nearly all districts, and, on the whole, the month was the coldest November since 1893. Some fairly mild weather was experienced early in the month, but about the middle of the third week there set in a frost of unusual severity for the time of year. On the night of 17th, the sheltered minimum at Braemar fell to 5°·2, and on the following night shade readings of 15°·0 or under were noted at several stations, including Kingussie, Lednathie, and Drumlanrig. There was a rapid recovery of temperature after this cold spell, with high readings on 22nd and 23rd. The absolutely highest temperature was 56°·5 at Leadhills on 3rd, and the lowest 5°·2 at Braemar on the night of 17th.

The mean rainfall was 5·07 inches, or 33 per cent. above the normal. At Kingussie, in the extreme West, and in parts of the Southern counties, the amounts were below or just equal to the average, but in nearly all other districts there was a large excess, which was very pronounced towards the North-East. Thus, Keith, Tillypronie, and Montrose had more than twice their usual amounts, whilst the largest total reported was 9·41 inches at Crathes (Kincardine), 2·25 inches falling there on 11th. Very wet spells occurred, especially in the East, from 1st to 7th, and from 10th to 14th. The West Coast rainfall was heavy from 22nd to 26th, and the 26th a very wet day in all districts. We may note falls of 2·02 inches at Bendamph (Loch Torridon) on 22nd, and 2·05 inches at Lochbuie (Mull) on 26th.

The weather of the month was of a most variable character, the early days being stormy in the North, and gales general around 13th and 26th. Snow fell in most districts during the cold spell towards the end of the third week.

Sunshine was rather above the average.

Thunder occurred at Leadhills on several days, and in Orkney and at some North-Eastern stations on some one day. On the night of 15th, an unusually brilliant display of Aurora was generally observed, the colours being described by the Deerness observer as "scarlet and orange."

DECEMBER 1905—

Hence the month of DECEMBER 1905 was characterised by an extremely high mean barometric pressure; a notably high mean temperature, with a low mean daily range; a mean humidity about the average; an extremely low mean rainfall, but with the average number of days with rain; a large excess of South-Westerly winds of about average force.

The mean barometric pressure of 30·010 inches, or 0·230 inch above the normal, was the highest mean for December since 1890. The most important depressions appeared between 5th and 9th, and at the very end of the month, and at Leith there were only nine days on which sea-level pressure failed to reach 30 inches, the extremes there being 30·883 inches on 12th and 29·380 inches on 6th.

The mean temperature was 42°·1, or 4°·0 above the normal, the days being 3°·5 and the nights 4°·6 above their respective averages. The temperature excess was well marked in all districts, and within the last thirty years, only in 1898 and 1900 has the mean for December been higher. The only important interruptions of cold were experienced about 12th and 13th, and again at the very close of the month, when South-Easterly winds displaced the prevailing South-Westerly air currents to which the remarkable mildness of the month was due. It is noteworthy that the mean temperatures of both day and night were above those for November, and that of the nights above even that of October. The absolutely highest temperature was 58°·9 at Loanhead (Logie Coldstone) on 20th, and the lowest 14°·0 at Lednathie on 12th.

The mean rainfall was 2·77 inches, or 33 per cent. below the normal, and the month was, on the whole, the driest December since 1892. Only a few isolated stations approached their average amounts, but the deficiency was more marked in the East than in the West, and greatest in North-Eastern and South-Eastern districts. Some stations registered less than 1 inch, and Gordon Castle and Duns had only about one-fifth of their usual amounts. The rainiest periods were from 5th to 8th, and from 19th to 24th, and we may note the following heavy falls:—1·39 inch at Stronvar on 5th, 1·63 at Fort-William on 20th, and on 24th, 1·31 at Kilmarnock, and 1·12 at Drumlanrig.

The weather was stormy on 30th and 31st, and rather stormy between 5th and 9th, with thunder at a few Western and Northern stations on 7th or 8th.

At only a few stations was snow, sleet, or hail recorded.

Sunshine was above the average in the East, but deficient in the West and in the Orkneys.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A.	B.										
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Maximum.	Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	280	Oct.	29·595	...	...	...	...	...	...	...	...	42·1	...	...	...
		Nov.	29·352	...	...	...	...	...	...	...	...	42·0	...	...	...
		Dec.	29·568	...	...	...	...	...	...	...	...	42·8	...	...	...
LERWICK, (Shetland.) Capt. G. Allison, Harbour Master.	80	Oct.	29·839	47·5	39·3	43·4	−3·8	53·0	10	33·0	14, 18	43·3	2·6	·225	80
		Nov.	29·578	45·2	39·3	42·2	−1·7	51·0	23	31·0	29	42·0	2·2	·221	81
		Dec.	29·814	46·4	39·7	43·0	+1·1	52·0	2, 3	31·0	17	43·3	2·0	·237	84
DEERNESS, (Orkney.) M. Spence, Schoolhouse.	172	Oct.	29·732	47·4	39·6	43·5	−3·0	53·8	10, 11	32·8	14	43·5	2·1	·237	83
		Nov.	29·412	44·8	38·3	41·6	−0·7	50·6	23	33·0	16	41·9	1·8	·228	87
		Dec.	29·697	46·0	39·5	42·7	+2·6	52·8	2	32·8	29, 30	43·3	2·0	·237	84
KIRKWALL, (Orkney.) William T. Sinclair.	30	Oct.	29·895	48·4	39·5	44·0	−3·1	55·4	11	33·6	17	43·8	1·8	·246	86
		Nov.	29·573	45·2	37·8	41·5	−1·5	51·0	23	28·4	29	42·0	1·8	·229	85
		Dec.	29·856	46·0	39·4	42·7	+1·9	52·8	3	28·8	26	43·7	1·9	·244	85
DUNROBIN, (Sutherland.) D. Melville, Gardener, Dunrobin Castle.	16	Oct.	29·933	48·8	38·7	43·8	−3·2	58·0	10	30·5	28	43·7	2·0	·242	85
		Nov.	29·573	45·6	36·2	40·9	−0·8	53·5	23	26·5	29	40·5	1·3	·224	90
		Dec.	29·911	47·0	37·3	42·1	+3·2	56·0	2	28·5	7	42·4	2·4	·221	82
LAIRG, (Sutherland.) Rev. John K. Maclean, M.A.	390	Oct.	...	49·9	36·8	43·4	−2·2	62·0	10	23·0	19	41·6	1·2	·237	91
		Nov.	29·163	44·3	32·7	38·5	−1·2	53·2	23	15·0	18	37·8	1·1	·206	91
		Dec.	29·489	44·7	35·4	40·0	+3·0	54·5	2	20·0	26	39·9	1·9	·208	85
GLENCARRON, (Ross.) D. D. Munro.	504	Oct.	29·429	48·0	36·9	42·4	−2·9	56·0	9	25·0	19	41·7	1·7	·228	87
		Nov.	29·058	44·3	35·1	39·7	−0·9	54·1	22	22·6	18	39·6	1·7	·210	86
		Dec.	29·375	46·5	37·1	41·8	+3·9	53·9	2	26·2	28, 30	42·0	1·9	·227	86
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	Oct.	29·846	...	...	...	...	...	...	...	...	45·7	...	...	...
		Nov.	29·443	...	...	...	...	...	...	...	...	43·2	...	...	...
		Dec.	29·716	...	...	...	...	...	...	...	...	44·6	...	...	...
KINGUSSIE, (Inverness.) Dr Walter de Watteville.	828	Oct.	29·066	48·1	34·6	41·4	−2·4	58·6	10	24·4	18, 20	40·5	1·7	·217	86
		Nov.	28·728	42·7	31·4	37·0	−1·4	52·8	2	12·6	19	36·7	1·3	·193	89
		Dec.	29·075	44·4	34·6	39·5	+4·1	51·4	3	16·8	30	39·9	2·1	·205	83
INVERNESS, (Inverness.) Thos. Wallace, High School.	114	Oct.	29·856	50·0	40·5	45·2	−1·7	61·0	9	31·9	16	44·4	1·8	·253	87
		Nov.	29·498	44·9	36·2	40·6	−1·1	53·1	23	26·4	29	40·4	1·4	·222	89
		Dec.	29·831	46·0	38·2	42·1	+3·4	53·2	3	22·0	30, 31	41·9	2·0	·226	86
FORT AUGUSTUS, (Inverness.) Rev. Cyril von Dieckhoff, St Benedict's Priory.	73	Oct.	29·904	50·5	37·6	44·0	−2·7	59·5	9	25·5	19	42·9	1·7	·237	86
		Nov.	29·538	44·7	35·0	39·9	−1·6	53·0	23	21·2	29	40·0	1·3	·220	90
		Dec.	29·877	46·4	38·9	42·6	+3·7	53·0	2, 3	24·6	30	42·6	1·7	·237	87
FORT WILLIAM, (Inverness.) W. T. Kilgour.	175	Oct.	...	...	...	...	...	...	3	...	...	...	...	...	...
		Nov.	...	45·3	...	...	...	55·8	3	...	...	40·0	2·1	·205	83
		Dec.	...	46·7	38·2	42·4	+2·6	53·0	2	28·0	12, 30	42·9	2·5	·224	81
GORDON CASTLE, (Banff.) C. Webster, Gardener to the Duke of Richmond and Gordon.	107	Oct.	29·840	49·5	37·3	43·4	−3·4	59·0	12	30·5	22	44·1	2·1	·243	83
		Nov.	29·505	45·7	35·0	40·3	−1·2	56·0	23	25·0	18	40·5	1·7	·218	85
		Dec.	29·846	47·0	37·7	42·4	+3·6	57·0	3	28·0	31	42·9	2·9	·216	79
BRAEMAR, (Aberdeen.) James Aitken, Banker.	1114	Oct.	28·736	46·7	36·4	41·5	−1·4	62·4	10	24·3	20	40·2	2·6	·198	80
		Nov.	28·417	40·8	30·7	35·8	−1·7	50·0	23	5·2	18	35·7	1·3	·188	88
		Dec.	...	...	...	...	...	...	...	...	...	...	...	...	...
LOANHEAD, (Aberdeen.) Alex. Farquharson.	747	Oct.	29·131	47·6	37·1	42·3	−2·3	65·0	10	30·3	14	42·1	1·4	·238	89
		Nov.	28·810	42·6	32·7	37·6	−1·0	52·9	23	14·0	18	38·1	0·8	·213	93
		Dec.	29·168	45·2	34·8	40·0	+3·7	58·9	20	21·8	30	41·1	1·8	·220	85

SCOTLAND for the Quarter ending 31st December 1905.

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
8·7	21	...	...	...	...	4	2	0	0	21	1	2	22	5	4	4	4	2	11	10	0	4·5
8·3	22	...	...	...	...	0	0	1	0	15	1	0	9	9	7	7	8	6	12	1	1	4·1
7·9	20	...	...	...	...	2	1	0	0	15	1	2	5	9	13	2	10	7	12	8	1	4·4
...	23	4·88	...	0·70	3	1	0	0	...	...	0	3	37	0	0	2	13	1	5	4	0	4·2
...	22	4·10	...	0·54	5	0	0	0	...	...	0	7	13	4	0	5	20	9	6	2	1	4·8
...	19	2·85	...	0·56	20	0	0	0	...	...	1	2	5	0	0	3	20	12	0	9	3	5·0
7·7	29	5·75	+ 1·87	0·85	26	1	1	0	0	15	1	8	19	4	3	2	2	5	10	17	0	5·6
7·6	22	4·28	+ 0·43	0·78	24	2	0	1	1	17	0	11	11	5	10	9	5	12	4	4	0	5·8
7·0	14	1·56	− 2·31	0·22	19	0	1	1	3	12	0	4	1	0	6	2	30	5	16	2	0	...
6·2	28	5·05	+ 0·83	0·71	3	3	2	0	3	13	0	1	18	4	2	0	6	4	20	8	0	3·4
6·7	25	4·94	+ 0·63	0·55	23	2	0	1	3	14	0	3	8	8	20	0	10	8	6	0	0	3·7
5·8	22	2·34	− 2·30	0·29	9	3	0	1	5	13	0	4	2	0	6	0	20	8	26	0	0	3·6
...	19	3·86	+ 0·60	0·94	30	2	0	0	...	...	0	2	9	0	8	2	2	2	13	25	1	2·4
...	26	4·01	+ 0·81	0·63	27	1	0	1	...	...	0	2	19	8	6	7	3	2	5	9	1	2·7
...	14	1·67	− 1·66	0·33	6	0	0	0	...	...	0	1	3	0	5	8	5	12	17	11	1	2·5
6·7	28	5·01	+ 1·10	0·91	30	5	0	0	3	12	1	1	15	2	7	0	2	1	15	18	7	2·8
6·9	22	5·33	+ 1·60	0·63	5	3	0	0	1	12	0	2	3	2	12	8	1	4	17	3	10	2·8
6·4	23	2·79	− 1·10	0·36	16	2	0	1	2	9	4	4	0	0	7	8	2	18	24	3	10	3·6
7·5	30	8·77	− 0·64	1·22	3	1	0	0	2	18	0	0	12	1	15	0	0	0	34	0	0	3·2
7·1	25	7·85	− 1·30	1·41	22	0	0	0	4	16	0	1	17	0	18	0	0	0	23	0	2	4·0
8·1	23	9·33	− 1·24	1·02	5	0	0	0	0	16	2	2	8	1	8	0	0	1	41	0	3	4·7
8·3	20	4·21	− 0·74	1·14	26	2	1	0	1	18	4	4	18	6	8	2	1	5	14	8	0	4·1
7·7	18	4·41	− 0·45	0·96	30	6	0	0	1	13	0	6	6	14	5	6	8	8	7	6	0	4·6
8·6	21	4·75	− 0·79	1·15	19	6	0	0	2	22	2	8	0	1	4	11	8	16	18	4	0	5·5
7·6	26	2·85	− 0·24	0·43	4	...	...	...	1	12	...	...	...	...	...	...	...	...	...	...	...	...
7·8	22	2·63	− 0·32	0·39	6	4	...	...	1	17	...	...	...	...	...	...	...	...	...	...	...	...
6·6	16	2·00	− 0·93	0·72	8	...	...	...	1	14	...	...	...	...	...	...	...	...	...	...	...	...
7·8	18	3·27	+ 0·79	1·06	31	2	1	0	2	18	3	1	14	5	4	1	0	11	18	7	2	1·6
7·1	23	3·45	+ 1·01	0·84	5	3	2	0	2	13	6	1	6	5	10	4	4	18	11	2	0	1·5
7·4	13	1·46	− 1·00	0·33	7	0	0	0	1	17	6	2	3	4	2	1	4	23	23	1	1	2·3
7·1	26	3·23	− 1·07	0·76	3	3	0	0	2	13	0	0	9	7	0	1	6	15	3	2	19	1·7
7·6	20	5·25	+ 0·69	0·76	5	2	0	0	3	11	2	2	4	14	1	2	5	8	1	2	23	2·0
7·5	18	4·82	− 0·95	1·18	5	0	2	0	1	16	3	9	0	5	0	1	12	29	3	0	12	3·5
...	20	5·24	− 2·10	1·37	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7·3	17	6·15	− 1·50	1·20	22	3	1	0	1	14	2	1	2	5	16	0	4	14	3	0	16	0·8
7·7	22	8·41	− 0·99	1·63	20	0	0	0	2	16	1	1	0	1	3	1	8	35	5	0	9	1·4
7·9	27	5·80	+ 2·63	0·72	14	1	5	0	1	17	0	1	5	5	1	2	3	18	3	25	0	1·6
6·5	21	5·61	+ 2·75	0·93	26	0	0	1	3	8	0	0	1	10	3	15	3	20	2	6	0	1·7
6·2	9	0·61	− 2·15	0·21	15	0	0	0	1	5	0	1	0	3	0	8	24	22	2	3	0	1·8
7·2	24	3·85	− 0·06	1·08	30	3	0	1	0	11	0	2	4	19	1	1	2	9	6	20	0	1·0
7·0	27	6·87	+ 3·21	0·79	1	7	0	0	2	13	0	2	8	21	0	15	1	14	1	0	0	1·1
...	17	2·02	− 1·26	0·68	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6·3	26	3·87	+ 0·68	0·43	31	5	0	0	4	12	0	4	0	1	1	1	0	4	4	39	12	1·5
6·2	22	6·38	+ 3·39	1·09	11	5	0	0	7	14	0	2	1	7	1	13	1	5	5	8	19	1·2
6·5	14	0·55	− 2·36	0·09	15	0	0	0	5	14	0	2	0	7	1	8	0	18	8	3	17	1·3

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch	%
TILLYPRONIE, (Aberdeen.) Robt. Littlejohn, Gardener to Sir John F. Clark, Bt.	1120	Oct.	28·728	47·5	35·2	41·4	−2·1	61·3	10	28·0	14	40·1	1·6	·216	87
		Nov.	28·406	42·6	32·8	37·7	−0·1	51·6	23	20·0	19	36·8	0·9	·197	91
		Dec.	28·754	44·3	33·9	39·1	+4·2	54·0	8	23·0	30	39·2	2·1	·199	83
ABERDEEN, (Aberdeen.) Peter Harper, Superintendent, Duthie Park.	44	Oct.	29·897	49·1	38·8	44·0	−3·2	60·0	9	31·6	27	43·4	1·9	·241	85
		Nov.	29·590	44·1	35·7	39·9	−1·4	52·0	22	20·5	19	39·0	1·2	·214	90
		Dec.	29·962	46·2	37·5	41·8	+3·6	53·0	2	25·2	13	41·6	2·1	·220	84
PETERHEAD, (Aberdeen.) Dr W. H. M'Walter, H.M. Prison.	100	Oct.	29·822	50·7	38·4	44·6	−3·4	57·0	12, 16	32·3	13	44·6	2·5	·239	81
		Nov.	29·515	45·7	35·5	40·6	−1·7	51·0	2	26·0	19	40·9	1·2	·231	91
		Dec.	29·870	45·9	36·9	41·4	+1·6	51·9	2	30·5	12	42·7	1·6	·239	87
CRATHES, (Kincardine.) J. Smith, Pinewood.	145	Oct.	29·792	49·7	36·3	43·0	−3·2	61·9	9	28·0	19	42·5	1·9	·232	85
		Nov.	29·481	44·4	33·5	39·0	−1·0	53·6	23	14·0	19	38·6	1·4	·207	89
		Dec	29·848	46·2	34·8	40·5	+3·6	54·0	3	21·0	13	40·6	2·3	·207	82
MONTROSE, (Forfar.) (Royal Asylum), Dr John G. Havelock.	200	Oct.	29·726	49·3	38·3	43·8	−3·0	62·0	9	31·0	20	42·5	1·8	·234	86
		Nov.	29·416	44·2	35·6	39·9	−1·1	52·0	22	21·0	19	38·8	1·1	·215	91
		Dec.	29·797	45·3	37·2	41·2	+3·2	52·0	6	25·0	13	40·6	1·1	·230	91
ARBROATH, (Forfar.) James Campbell, "For the Natural History Assoc. of Arbroath."	68	Oct.	29·882	51·4	38·2	44·8	−2·1	67·0	9	29·0	18	43·9	2·1	·242	84
		Nov.	29·559	45·7	36·2	41·0	−0·3	52·0	23	22·5	19	41·4	1·8	·224	87
		Dec.	29·956	46·6	38·5	42·6	+3·7	58·5	1	32·0	12, 26	43·1	2·0	·235	84
DUNDEE, Eastern Necropolis, (Forfar.) J. Carnochan, Curator.	164	Oct.	29·783	50·4	38·4	44·4	−2·1	60·9	9	27·3	20	42·9	2·1	·232	85
		Nov.	29·466	43·9	35·2	39·6	−1·0	50·7	22	19·3	19	38·8	0·8	·220	94
		Dec.	29·847	45·6	38·2	41·9	+4·5	51·1	8	31·5	12	41·6	1·2	·238	91
DUNDEE, Harbour, (Forfar.) J. Thompson, Jr., Harbour Trust.	20	Oct.	29·949	52·0	40·2	46·1	−2·3	65·0	9	31·5	16	45·5	2·2	·255	84
		Nov.	29·621	45·0	37·1	41·0	−1·1	53·0	23	24·8	19	41·2	0·9	·240	93
		Dec.	30·014	46·7	40·4	43·6	+4·5	52·0	7	33·2	12, 31	43·4	2·0	·238	84
LEDNATHIE, (Forfar.) Wm. Morrison, Gardener to Patrick Stormonth Darling.	720	Oct.	29·166	49·7	35·0	42·3	−2·1	65·0	10	26·0	20, 22	41·9	2·6	·214	81
		Nov.	28·848	42·9	31·8	37·3	−1·6	50·0	23	12·8	19	37·5	1·1	·203	91
		Dec.	29·224	44·1	33·8	38·9	+3·5	50·8	21	14·0	12	39·5	1·5	·212	88
BALRUDDERY, (Forfar.) George Davie, Gardener to J. Martin White.	280	Oct.	29·652	52·0	37·4	44·7	−1·7	65·0	10	27·0	18	43·5	2·7	·225	79
		Nov.	29·332	44·6	...	...	...	53·0	8	...	...	38·7	1·3	·210	90
		Dec.	...	...	...	...	...	...	...	...	...	...	...	...	...
PERTH, (Perth.) John Leslie, Gardener to Henry Coates.	105	Oct.	29·857	51·6	34·7	43·2	−3·2	63·0	9	21·0	20	41·1	2·1	·214	83
		Nov.	29·520	44·2	32·6	38·4	−2·5	54·0	23	15·0	19	37·7	1·4	·199	83
		Dec.	29·905	46·7	37·7	42·2	+4·5	53·5	7	26·5	13	41·9	1·4	·237	90
STRONVAR, (Perth.) D. L. Mackintosh, Gardener to James Carnegie.	422	Oct.	29·512	52·0	33·1	42·5	−3·5	64·0	10	19·0	20	41·7	2·0	·223	86
		Nov.	29·166	44·0	32·0	38·0	−1·8	55·0	23	17·0	18	38·2	1·5	·201	88
		Dec.	29·550	46·4	36·1	41·2	+4·3	54·0	4, 7	23·0	13, 30	41·2	1·6	·225	88
CLATHICK, (Perth.) Alex. Hendry.	300	Oct.	29·641	52·6	36·9	44·7	−1·6	67·0	10	26·0	20	43·6	2·7	·226	79
		Nov.	29·306	45·4	34·3	39·8	−0·2	53·0	12	18·2	19	39·3	1·1	·219	92
		Dec.	29·690	46·5	37·8	42·1	+5·2	54·0	22	26·0	30, 31	42·1	2·0	·226	85
CUPAR, (Fife.) Dr Turnbull, Fife and Kinross District Asylum.	210	Oct.	29·745	51·5	36·9	44·2	−2·3	63·0	9	25·0	18	44·1	2·7	·231	79
		Nov.	29·409	44·9	34·5	39·7	−1·0	54·0	23	18·0	19	39·7	1·7	·210	86
		Dec.	29·796	46·8	37·2	42·0	+3·8	52·0	2, 7	27·0	27	42·3	2·2	·224	84
DUNFERMLINE, (Fife.) Dr J. Macdonald, High School.	225	Oct.	29·728	49·0	...	...	...	65·0	9	...	...	43·8	2·7	·228	79
		Nov.	29·367	43·8	...	...	...	53·6	3	...	...	39·6	1·4	·215	89
		Dec.	...	...	...	...	...	...	...	...	...	...	...	...	...

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
7·7	25	4·69	+ 1·59	0·70	31	4	0	0	0	13	3	3	2	4	0	6	0	7	1	42	0	4·0
6·6	22	6·12	+ 3·26	1·07	11	5	0	0	2	14	9	7	0	10	0	10	3	12	5	20	0	4·6
6·0	15	0·66	− 2·03	0·14	15	0	0	0	2	8	5	1	0	1	0	11	13	18	11	8	0	4·0
6·4	25	2·96	− 0·04	0·28	28	1	0	0	2	3	0	2	4	5	0	2	1	4	14	32	0	2·5
6·1	20	4·96	+ 1·78	0·95	26	1	0	1	5	9	0	2	4	5	1	14	7	17	5	7	0	2·3
6·2	14	0·89	− 2·39	0·20	16	1	0	0	3	6	2	0	0	1	3	4	9	39	3	3	0	2·3
6·8	18	4·23	+ 0·85	0·90	18	0	2	0	1	10	0	3	12	3	0	0	2	9	4	27	5	2·4
5·8	20	3·79	+ 0·57	0·95	13	1	1	0	4	12	0	4	6	1	5	8	15	9	1	10	5	3·1
6·5	12	0·52	− 2·40	0·21	19	0	0	0	2	11	1	2	0	0	1	7	29	15	0	2	8	2·4
6·5	25	3·76	...	0·84	30	2	3	0	4	11	2	3	7	7	1	1	2	8	11	22	3	2·8
6·0	19	9·41	...	2·25	11	6	0	1	6	13	1	1	3	4	6	6	8	14	11	5	3	3·0
5·9	16	1·04	...	0·23	18	0	1	0	5	11	4	4	0	0	5	8	14	19	4	6	6	3·1
...	14	1·77	− 1·06	0·32	28	4	2	1	...	...	0	2	14	2	2	3	4	12	4	20	1	3·6
...	19	7·61	+ 4·84	1·38	1	2	1	1	...	...	0	6	11	1	4	15	5	6	9	9	0	3·7
...	10	1·45	− 1·36	0·34	19	1	1	0	...	...	3	2	1	3	1	10	19	10	15	3	0	3·4
4·9	12	2·35	− 0·04	1·05	31	2	1	1	5	7	1	0	4	5	1	2	1	10	10	23	6	1·6
5·8	23	3·80	+ 1·48	0·67	11	3	1	0	5	12	0	3	11	3	7	6	5	8	13	6	1	2·6
6·3	14	0·89	− 1·55	0·23	24	0	1	0	2	6	0	1	2	2	5	7	4	16	22	3	1	2·6
7·6	14	1·94	− 0·69	0·69	31	1	1	0	0	14	0	0	3	7	3	3	1	4	12	29	0	1·8
8·1	19	4·36	+ 1·82	0·68	26	2	0	0	0	16	0	3	3	7	4	10	1	18	3	14	0	2·1
9·1	15	1·27	− 1·44	0·34	24	1	0	0	0	22	5	1	1	3	0	12	2	26	13	5	0	1·8
4·9	16	1·80	..	0·62	31	1	0	0	6	4	0	0	5	7	5	1	0	4	17	21	2	2·4
7·0	18	4·41	...	0·91	1	1	0	0	8	13	0	1	7	4	8	5	6	14	10	6	0	2·9
7·0	16	1·21	...	0·35	24	0	0	0	3	14	0	1	0	2	10	3	3	13	30	1	0	3·3
5·9	20	3·22	− 1·24	1·03	30	6	1	0	2	5	0	8	17	8	2	2	1	3	8	20	1	3·4
7·0	22	8·93	+ 4·12	1·75	11	6	1	0	2	15	0	4	11	6	8	7	3	7	7	11	0	3·5
7·1	20	2·56	− 1·81	0·50	18	0	0	0	2	11	5	3	8	5	1	2	6	8	27	4	1	3·3
5·2	10	1·52	...	0·31	29	1	0	0	6	4	0	0	19	9	0	0	0	3	6	20	5	1·5
5·9	19	5·51	...	0·90	27	0	0	0	6	13	0	0	4	14	5	4	1	5	8	10	9	1·6
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4·6	10	2·23	− 0·87	0·60	31	...	...	...	8	7	0	0	3	1	5	0	0	2	15	9	27	1·2
5·8	17	4·53	+ 1·63	0·95	26	...	...	...	8	12	2	0	0	2	12	4	2	4	14	0	22	0·7
8·1	14	1·96	− 1·20	0·47	24	...	...	...	1	14	3	0	0	0	6	3	0	3	35	2	13	1·2
6·1	15	4·80	− 2·78	0·99	8	...	...	...	0	7	0	6	2	6	12	4	0	4	10	24	0	4·9
6·5	20	10·38	+ 2·77	1·20	22	...	...	...	1	7	0	4	4	10	4	10	0	10	8	14	0	4·8
7·0	26	7·66	− 0·48	1·39	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5·8	18	3·06	− 1·00	0·51	28	0	0	0	3	9	0	1	14	9	16	1	1	0	11	10	0	2·7
7·1	23	7·48	+ 3·26	1·10	5	0	0	0	2	12	0	0	4	10	29	2	1	3	6	5	0	2·6
8·1	21	3·83	− 0·51	0·89	5	0	0	0	1	18	2	0	6	0	17	2	0	5	27	5	0	2·6
...	10	1·92	− 0·70	0·52	31	...	...	...	...	...	...	...	32	1	4	0	0	1	4	12	8	1·4
...	17	6·73	+ 4·14	1·36	2	...	...	...	...	...	...	..	18	1	21	0	1	2	8	7	2	1·7
...	15	2·02	− 0·76	0·49	25	...	...	...	...	...	...	...	22	0	6	0	6	5	11	10	2	1·8
6·4	13	1·91	...	0·33	15	0	0	1	2	9	3	1	23	1	4	0	2	1	19	12	0	1·4
7·0	17	4·59	...	1·36	1	1	0	0	2	12	2	2	18	10	9	0	2	6	15	0	0	1·4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch	%
TILLYPRONIE, (Aberdeen.)	1120	Oct.	28·728	47·5	35·2	41·4	−2·1	61·3	10	28·0	14	40·1	1·6	·216	87
Robt. Littlejohn, Gardener		Nov.	28·406	42·6	32·8	37·7	−0·1	51·6	23	20·0	19	36·8	0·9	·197	91
to Sir John F. Clark, Bt.		Dec.	28·754	44·3	33·9	39·1	+4·2	54·0	3	23·0	30	39·2	2·1	·199	83
ABERDEEN, (Aberdeen.)	44	Oct.	29·897	49·1	38·8	44·0	−3·2	60·0	9	31·6	27	43·4	1·9	·241	85
Peter Harper, Superintendent,		Nov.	29·590	44·1	35·7	39·9	−1·4	52·0	22	20·5	19	39·0	1·2	·214	90
Duthie Park.		Dec.	29·962	46·2	37·5	41·8	+3·6	53·0	2	25·2	13	41·6	2·1	·220	84
PETERHEAD, (Aberdeen.)	100	Oct.	29·822	50·7	38·4	44·6	−3·4	57·0	12, 16	32·3	18	44·6	2·5	·239	81
Dr W. H. M'Walter,		Nov.	29·515	45·7	35·5	40·6	−1·7	51·0	2	26·0	19	40·9	1·2	·231	91
H.M. Prison.		Dec.	29·870	45·9	36·9	41·4	+1·6	51·9	2	30·5	12	42·7	1·6	·239	87
CRATHES, (Kincardine.)	145	Oct.	29·792	49·7	36·3	43·0	−3·2	61·9	9	28·0	19	42·5	1·9	·232	85
J. Smith, Pinewood.		Nov.	29·481	44·4	33·5	39·0	−1·0	53·6	23	14·0	19	38·6	1·4	·207	89
		Dec	29·848	46·2	34·8	40·5	+3·6	54·0	3	21·0	13	40·6	2·3	·207	82
MONTROSE, (Forfar.)	200	Oct.	29·726	49·3	38·3	43·8	−3·0	62·0	9	31·0	20	42·5	1·8	·234	86
(Royal Asylum),		Nov.	29·416	44·2	35·6	39·9	−1·1	52·0	22	21·0	19	38·8	1·1	·215	91
Dr John G. Havelock.		Dec.	29·797	45·3	37·2	41·2	+3·2	52·0	6	25·0	13	40·6	1·1	·230	91
ARBROATH, (Forfar.)	68	Oct.	29·882	51·4	38·2	44·8	−2·1	67·0	9	29·0	18	43·9	2·1	·242	84
James Campbell, "For the		Nov.	29·559	45·7	36·2	41·0	−0·3	52·0	23	22·5	19	41·4	1·8	·224	87
Natural History Assoc. of Arbroath."		Dec.	29·956	46·6	38·5	42·6	+3·7	58·5	1	32·0	12, 26	43·1	2·0	·235	84
DUNDEE, Eastern	164	Oct.	29·783	50·4	38·4	44·4	−2·1	60·9	9	27·3	20	42·9	2·1	·232	85
Necropolis, (Forfar.)		Nov.	29·466	43·9	35·2	39·6	−1·0	50·7	22	19·3	19	38·8	0·8	·220	94
J. Carnochan, Curator.		Dec.	29·847	45·6	38·2	41·9	+4·5	51·1	3	31·5	12	41·6	1·2	·238	91
DUNDEE, Harbour, (Forfar.)	20	Oct.	29·949	52·0	40·2	46·1	−2·3	65·0	9	31·5	16	45·5	2·2	·255	84
J. Thompson, Jr.,		Nov.	29·621	45·0	37·1	41·0	−1·1	53·0	23	24·8	19	41·2	0·9	·240	93
Harbour Trust.		Dec.	30·014	46·7	40·4	43·6	+4·5	52·0	7	33·2	12, 31	43·4	2·0	·238	84
LEDNATHIE, (Forfar.)	720	Oct.	29·166	49·7	35·0	42·3	−2·1	65·0	10	26·0	20, 22	41·9	2·6	·214	81
Wm. Morrison, Gardener		Nov.	28·848	42·9	31·8	37·3	−1·6	50·0	23	12·8	19	37·5	1·1	·203	91
to Patrick Stormonth Darling.		Dec.	29·224	44·1	33·8	38·9	+3·5	50·8	21	14·0	12	39·5	1·5	·212	88
BALRUDDERY, (Forfar.)	280	Oct.	29·652	52·0	37·4	44·7	−1·7	65·0	10	27·0	18	43·5	2·7	·225	79
George Davie, Gardener to		Nov.	29·332	44·6	...	...	...	53·0	8	...	...	38·7	1·3	·210	90
J. Martin White.		Dec.	...	...	...	...	...	...	...	...	...	...	...	...	...
PERTH, (Perth.)	105	Oct.	29·857	51·6	34·7	43·2	−3·2	63·0	9	21·0	20	41·1	2·1	·214	83
John Leslie, Gardener to		Nov.	29·520	44·2	32·6	38·4	−2·5	54·0	23	15·0	19	37·7	1·4	·199	88
Henry Coates.		Dec.	29·905	46·7	37·7	42·2	+4·5	53·5	7	26·5	13	41·9	1·4	·237	90
STRONVAR, (Perth.)	422	Oct.	29·512	52·0	33·1	42·5	−3·5	64·0	10	19·0	20	41·7	2·0	·223	86
D. L. Mackintosh, Gardener		Nov.	29·166	44·0	32·0	38·0	−1·8	55·0	23	17·0	18	38·2	1·5	·201	88
to James Carnegie.		Dec.	29·550	46·4	36·1	41·2	+4·8	54·0	4, 7	23·0	13, 30	41·2	1·6	·225	88
CLATHICK, (Perth.)	300	Oct.	29·641	52·6	36·9	44·7	−1·6	67·0	10	26·0	20	43·6	2·7	·226	79
Alex. Hendry.		Nov.	29·306	45·4	34·3	39·8	−0·2	53·0	12	18·2	19	39·3	1·1	·219	92
		Dec.	29·690	46·5	37·8	42·1	+5·2	54·0	22	26·0	30, 31	42·1	2·0	·226	85
CUPAR, (Fife.)	210	Oct.	29·745	51·5	36·9	44·2	−2·8	63·0	9	25·0	18	44·1	2·7	·231	79
Dr Turnbull, Fife and		Nov.	29·409	44·9	34·5	39·7	−1·0	54·0	23	18·0	19	39·7	1·7	·210	86
Kinross District Asylum.		Dec.	29·796	46·8	37·2	42·0	+3·8	52·0	2, 7	27·0	27	42·3	2·2	·224	84
DUNFERMLINE, (Fife.)	225	Oct.	29·728	49·0	...	...	...	65·0	9	...	...	43·8	2·7	·228	79
Dr J. Macdonald,		Nov.	29·367	43·8	...	...	...	53·6	3	...	...	39·6	1·4	·215	89
High School.		Dec.	...	...	...	...	...	...	...	...	...	...	...	...	...

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
7·7	25	4·69	+ 1·59	0·70	31	4	0	0	0	13	3	3	2	4	0	6	0	7	1	42	0	4·0
6·6	22	6·12	+ 3·26	1·07	11	5	0	0	2	14	9	7	0	10	0	10	3	12	5	20	0	4·6
6·0	15	0·66	– 2·08	0·14	15	0	0	0	2	8	5	1	0	1	0	11	13	18	11	8	0	4·0
6·4	25	2·96	– 0·04	0·28	28	1	0	0	2	3	0	2	4	5	0	2	1	4	14	32	0	2·5
6·1	20	4·96	+ 1·73	0·95	26	1	0	1	5	9	0	2	4	5	1	14	7	17	5	7	0	2·3
6·2	14	0·89	– 2·39	0·20	16	1	0	0	3	6	2	0	0	1	3	4	9	39	3	3	0	2·3
6·8	18	4·28	+ 0·85	0·90	18	0	2	0	1	10	0	3	12	3	0	0	2	9	4	27	5	2·4
5·8	20	3·79	+ 0·57	0·95	13	1	1	0	4	12	0	4	6	1	5	8	15	9	1	10	5	3·1
6·5	12	0·52	– 2·40	0·21	19	0	0	0	2	11	1	2	0	0	1	7	29	15	0	2	8	2·4
6·5	25	3·76	...	0·84	30	2	3	0	4	11	2	3	7	7	1	1	2	8	11	22	3	2·8
6·0	19	9·41	...	2·25	11	6	0	1	6	13	1	1	3	4	6	6	8	14	11	5	3	3·0
5·9	16	1·04	...	0·23	18	0	1	0	5	11	4	4	0	0	5	8	14	19	4	6	6	3·1
...	14	1·77	– 1·06	0·32	28	4	2	1	...	...	0	2	14	2	2	3	4	12	4	20	1	3·6
...	19	7·61	+ 4·84	1·38	1	2	1	1	...	...	0	6	11	1	4	15	5	6	9	9	0	3·7
...	10	1·45	– 1·36	0·34	19	1	1	0	...	...	3	2	1	3	1	10	19	10	15	3	0	3·4
4·9	12	2·35	– 0·04	1·05	31	2	1	1	5	7	1	0	4	5	1	2	1	10	10	28	6	1·6
5·8	23	3·80	+ 1·48	0·67	11	3	1	0	5	12	0	3	11	3	7	6	5	8	13	6	1	2·6
6·3	14	0·89	– 1·55	0·23	24	0	1	0	2	6	0	1	2	2	5	7	4	16	22	3	1	2·6
7·6	14	1·94	– 0·69	0·69	31	1	1	0	0	14	0	0	3	7	3	3	1	4	12	29	0	1·8
8·1	19	4·36	+ 1·82	0·68	26	2	0	0	0	16	0	3	3	7	4	10	1	18	3	14	0	2·1
9·1	15	1·27	– 1·44	0·34	24	1	0	0	0	22	5	1	1	3	0	12	2	26	13	5	0	1·8
4·9	16	1·80	..	0·62	31	1	0	0	6	4	0	0	5	7	5	1	0	4	17	21	2	2·4
7·0	18	4·41	...	0·91	1	1	0	0	3	13	0	1	7	4	8	5	6	14	10	6	0	2·9
7·0	16	1·21	...	0·35	24	0	0	0	3	14	0	1	0	2	10	3	3	13	30	1	0	3·3
5·9	20	3·22	– 1·24	1·03	30	6	1	0	2	5	0	8	17	8	2	2	1	3	8	20	1	3·4
7·0	22	8·93	+ 4·12	1·75	11	6	1	0	2	15	0	4	11	6	8	7	3	7	7	11	0	3·5
7·1	20	2·56	– 1·81	0·50	18	0	0	0	2	11	5	3	8	5	1	2	6	8	27	4	1	3·3
5·2	10	1·52	...	0·31	29	1	0	0	6	4	0	0	19	9	0	0	0	3	6	20	5	1·5
5·9	19	5·51	...	0·90	27	0	0	0	6	13	0	0	4	14	5	4	1	5	8	10	9	1·6
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4·6	10	2·23	– 0·87	0·60	31	...	...	...	8	7	0	0	3	1	5	0	0	2	15	9	27	1·2
5·8	17	4·53	+ 1·63	0·95	26	...	...	...	8	12	2	0	0	2	12	4	2	4	14	0	22	0·7
8·1	14	1·96	– 1·20	0·47	24	...	...	...	1	14	3	0	0	0	6	3	0	3	35	2	13	1·2
6·1	15	4·80	– 2·78	0·99	3	...	...	...	0	7	0	6	2	6	12	4	0	4	10	24	0	4·9
6·5	20	10·38	+ 2·77	1·20	22	...	...	...	1	7	0	4	4	10	4	10	0	10	8	14	0	4·8
7·0	26	7·66	– 0·48	1·39	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5·8	18	3·06	– 1·00	0·51	28	0	0	0	3	9	0	1	14	9	16	1	1	0	11	10	0	2·7
7·1	23	7·48	+ 3·26	1·10	5	0	0	0	2	12	0	0	4	10	29	2	1	3	6	5	0	2·6
8·1	21	3·83	– 0·51	0·89	5	0	0	0	1	18	2	0	6	0	17	2	0	5	27	5	0	2·6
...	10	1·92	– 0·70	0·52	31	...	...	...	...	...	...	...	32	1	4	0	0	1	4	12	8	1·4
...	17	6·73	+ 4·14	1·36	2	...	...	...	...	...	...	..	18	1	21	0	1	2	8	7	2	1·7
...	15	2·02	– 0·76	0·49	25	...	...	...	...	...	...	...	22	0	6	0	6	5	11	10	2	1·8
6·4	13	1·91	...	0·33	15	0	0	1	2	9	3	1	23	1	4	0	2	1	19	12	0	1·4
7·0	17	4·59	...	1·36	1	1	0	0	2	12	2	2	18	10	9	0	2	6	15	0	0	1·4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of A. Maximum.	Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
BUCHLYVIE, (Stirling.)	125	Oct.	29·856	52·2	35·1	43·6	−2·7	63·0	10	21·0	20	42·1	1·7	·232	87
Rev. John A. Macdonald.		Nov.	29·502	44·5	33·9	39·2	−0·4	52·5	8	16·5	19	38·6	1·0	·215	92
		Dec.	29·896	46·2	38·3	42·2	+5·0	53·0	7	24·5	31	42·5	1·6	·238	87
HELENSBURGH,	18	Oct.	...	50·8	36·9	43·8	−2·8	58·0	11	26·2	19	43·5	1·9	·242	85
(Dumbarton.)		Nov.	...	45·8	34·4	40·1	−1·1	52·0	23	24·6	19	39·6	1·5	·213	88
J. R. Wilson, Waterworks.		Dec.	...	46·2	40·6	43·4	+4·6	51·0	6	28·2	30	42·9	1·7	·239	87
DUMBARTON, (Dumbarton.)	27	Oct.	29·964	52·5	37·1	44·8	−2·7	61·0	10	25·2	20	44·5	2·4	·240	82
William Denny and		Nov.	29·606	46·0	35·7	40·8	−0·9	52·2	23	22·0	19	40·8	1·7	·219	87
Brothers.		Dec.	30·009	47·2	40·4	43·8	+4·1	53·0	7	29·3	12	44·0	2·0	·244	84
LOCHBUIE, (Argyll.)	20	Oct.	29·976	52·5	40·9	46·7	−1·7	61·5	10	31·0	18, 20	46·5	2·0	·270	86
J. T. Mannary, Gardener to		Nov.	29·604	48·5	38·5	43·5	−0·5	53·2	23	29·5	18	43·2	1·7	·243	87
The Maclaine of Lochbuie.		Dec.	30·000	48·4	40·4	44·4	+3·1	53·0	3	30·0	30	44·8	1·9	·254	68
AIRDS, (Argyll.)	15	Oct.	29·976	51·8	39·6	45·7	−2·7	59·0	2	31·0	20	46·2	2·3	·261	84
Colonel Macfie, C.B., and		Nov.	29·616	47·5	38·6	43·1	−0·9	55·0	23	30·0	18, 19	43·3	1·7	·244	87
Alexander M'Lachlan.		Dec.	29·994	48·8	37·7	43·3	+1·7	56·0	2	30·0	30	...	...	...	...
POLTALLOCH, Lochgilphead	135	Oct.	29·855	...	35·1	...	...	...	...	25·0	18	45·1	1·7	·261	87
(Argyll.)		Nov.	29·479	...	35·4	...	...	...	...	22·0	19	41·7	1·9	·225	86
D. S. Melville, Gardener.		Dec.	29·878	48·4	38·7	43·5	+3·7	54·0	2	28·0	13	43·8	1·2	·259	91
ROTHESAY, Glenburn	76	Oct.	29·916	51·7	39·5	45·6	−1·9	58·0	11	28·0	19, 20	44·3	1·9	·249	85
Hydropathic, (Isle of Bute.)		Nov.	29·546	46·3	37·9	42·1	−0·5	54·0	23	28·0	18, 19	42·1	1·7	·232	87
R. Henderson and D. Penney.		Dec.	29·960	47·4	40·8	44·1	+4·1	53·0	2, 7	30·0	12	44·1	2·0	·245	84
GREENOCK, (Renfrew.)	238	Oct.	29·744	51·3	38·2	44·8	−2·1	58·5	15	30·0	18	44·0	2·4	·236	81
Daniel Macalister, C.E.,		Nov.	29·377	46·1	35·6	40·9	−0·9	53·0	23	21·5	19	42·3	1·5	·238	89
Waterworks.		Dec.	29·786	47·4	38·7	43·0	+3·6	54·0	7	29·0	31	43·2	1·7	·243	87
PAISLEY, (Renfrew.)	107	Oct.	29·871	53·2	38·0	45·6	−2·1	65·7	10	27·3	20	44·8	2·6	·239	81
Donald Maclean,		Nov.	29·514	46·0	37·8	41·9	−0·4	52·6	23	21·2	19	41·0	1·4	·227	89
The Coats Observatory.		Dec.	29·921	46·4	40·8	43·6	+4·1	52·6	2	29·3	30	43·6	1·7	·247	87
BOWHILL, (Ayr.)	978	Oct.	28·944	47·2	34·9	41·1	−2·1	53·0	9	27·0	18, 22	41·4	1·5	·230	89
Alexander Gillespie, C.E.		Nov.	28·578	42·3	31·7	37·0	−2·0	49·0	22	23·0	18	38·3	1·1	·209	91
		Dec.	28·991	44·9	35·2	40·0	+3·9	50·0	7	27·0	30, 31	40·3	1·1	·227	92
KILMARNOCK, (Ayr.)	74	Oct.	29·923	51·2	35·0	43·1	...	60·0	9	20·0	22	48·8	2·2	·239	83
Glenfield & Kennedy, Ltd.		Nov.	29·555	46·8	35·1	40·9	...	55·0	3, 25	20·0	18, 19	40·8	1·5	·223	88
		Dec.	29·959	46·7	39·9	43·3	...	52·0	2, 3	27·0	12	43·6	1·8	·245	86
GLASGOW, Belvidere Hosp.,	54	Oct.	29·930	51·5	38·2	44·8	−2·4	61·0	9	28·8	19	43·8	2·4	·234	81
(Lanark.)		Nov.	29·573	45·7	36·9	41·3	−1·0	53·3	23	20·7	19	41·0	1·5	·225	88
Dr John Brownlee.		Dec.	29·980	47·2	40·5	43·8	+4·5	52·8	2	29·5	30	44·0	1·9	·246	85
GLASGOW, Observatory,	184	Oct.	29·786	50·5	38·7	44·6	−2·8	59·0	9	28·2	20	43·7	2·3	·235	82
(Lanark.)		Nov.	29·480	44·7	37·8	41·3	−0·5	52·0	23	28·9	19	40·9	1·6	·222	87
Prof. Becker, F.R.S.E.		Dec.	29·844	46·3	40·5	43·4	+4·3	51·6	2	29·7	31	43·2	1·8	·240	86
BOTHWELL, (Lanark.)	150	Oct.	...	50·9	35·5	43·2	...	62·0	9	21·0	22	41·5	2·1	·219	84
Dr John T. Wilson.		Nov.	...	44·7	34·5	39·6	...	54·0	3	16·6	19	38·5	1·1	·211	91
		Dec.	...	46·4	39·2	42·8	...	54·0	2	27·0	30	42·7	1·7	·237	88
LEADHILLS, (Lanark.)	1300	Oct.	...	46·6	31·6	39·1	...	55·0	9	19·0	16	37·1	1·7	·188	85
James M'Farlane.		Nov.	...	42·3	29·8	36·0	...	56·5	3	18·0	19	34·0	1·6	·164	83
		Dec.	...	43·2	33·6	38·4	...	49·1	21	24·1	12	37·0	1·3	·195	89

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
				Most in a day.																		
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Amount.	Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
4·4	20	3·59	−1·03	0·92	3	2	1	0	10	4	1	1	5	3	3	4	1	9	23	6	8	2·2
5·9	19	5·64	+0·63	1·00	1	1	1	0	4	7	2	1	0	5	19	4	2	11	9	7	3	2·6
6·7	27	5·72	−0·23	0·91	24	0	1	0	2	7	6	5	0	1	10	1	3	16	27	2	2	4·0
...	16	4·33	−0·35	1·25	3	...	...	...	...	...	...	...	24	0	2	0	2	0	12	22	0	...
...	19	5·38	+0·63	0·75	22	...	...	...	...	...	...	...	24	0	24	0	6	0	6	0	0	...
...	23	3·97	−1·63	0·59	20, 24	...	...	...	...	...	...	...	12	0	26	0	12	0	12	0	0	...
...	18	3·58	−1·11	0·95	3	...	...	...	...	...	...	0	16	10	8	4	0	6	12	2	4	1·5
...	20	6·10	+1·15	1·15	10	...	...	..	...	...	...	0	6	14	14	6	4	2	6	4	4	1·2
...	22	3·86	−1·32	0·73	5, 24	...	...	...	...	...	...	0	0	2	2	2	16	10	14	14	12	1·1
7·0	21	8·19	...	1·54	3	0	0	0	4	17	0	1	20	0	10	4	0	4	4	12	8	2·8
6·4	19	9·22	...	2·05	26	0	0	0	7	17	0	2	0	18	10	2	6	12	4	4	4	3·2
6·8	23	6·84	...	1·50	21	1	0	1	3	14	0	4	6	2	10	4	4	22	8	4	2	4·0
6·8	12	4·11	−1·44	...	...	...	...	...	2	13	...	0	18	1	20	5	1	0	17	0	0	2·3
6·8	12	4·00	−1·68	...	...	...	...	...	4	13	...	0	5	0	24	11	4	7	7	2	0	2·4
8·0	16	3·48	−2·72	...	...	...	...	...	2	19	...	0	1	0	11	6	16	11	17	0	0	2·7
5·5	23	5·27	−0·31	1·10	4	0	0	0	4	10	0	1	5	7	1	2	0	8	7	5	27	2·1
6·2	18	5·45	+0·10	1·37	26	0	2	0	0	13	0	1	4	3	7	2	4	9	11	4	16	2·2
7·6	21	4·73	−0·54	0·62	24	0	0	2	2	17	0	0	0	1	0	7	4	12	9	3	26	2·8
5·7	17	4·43	−0·34	0·96	3	0	0	0	7	11	0	2	16	3	8	2	3	3	18	7	2	1·3
6·2	20	5·48	+0·63	0·93	25	0	0	0	5	12	8	2	8	6	18	3	3	8	9	2	3	1·5
8·0	21	3·96	−0·88	0·57	24	0	2	1	3	20	3	0	2	0	12	2	8	11	22	4	1	1·7
6·2	18	4·92	−1·24	1·20	3	0	0	0	6	11	0	3	0	10	2	5	0	17	8	20	0	2·8
7·0	21	7·12	+0·82	1·32	10	2	0	0	2	13	3	4	1	18	10	6	0	18	2	5	0	2·9
8·1	24	5·90	−1·42	0·87	5	0	1	1	0	19	1	11	0	10	2	4	2	35	8	1	0	5·1
5·0	19	3·07	−0·95	0·75	3	0	0	0	7	9	7	0	14	0	2	1	4	2	11	16	12	1·6
7·6	23	4·51	+0·52	0·64	26	0	0	0	3	17	10	1	6	3	9	2	10	5	8	3	14	1·9
7·8	20	3·41	−1·35	0·86	24	0	0	0	0	17	6	1	2	0	8	2	17	4	21	2	6	2·4
6·9	14	6·13	...	1·75	3	...	...	...	0	2	...	0	17	1	10	2	8	2	9	13	0	1·8
7·4	18	4·65	...	0·62	11	...	...	...	0	5	...	0	5	4	9	11	12	12	5	2	0	2·2
7·9	20	5·05	...	1·33	24	...	...	...	0	6	...	0	0	0	2	7	17	26	7	3	0	2·2
...	16	3·57	...	1·14	3	0	0	0	...	...	0	0	0	4	20	9	1	5	12	11	0	1·8
...	17	3·29	...	0·43	25	0	0	0	...	...	0	0	0	2	28	10	2	4	9	4	1	1·8
...	16	4·06	...	1·31	24	0	0	0	...	...	0	0	0	0	14	2	6	17	17	5	1	2·3
7·3	14	2·19	−1·34	0·67	3	...	...	...	0	9	...	...	2	0	10	0	0	0	21	4	25	0·6
7·3	21	3·13	−0·61	0·48	26	0	1	0	0	12	2	1	5	2	13	2	0	4	7	3	24	0·9
7·1	19	2·88	−0·99	0·89	24	0	0	1	0	5	2	1	1	0	10	1	2	5	12	6	25	1·5
6·9	14	2·28	−1·38	0·70	3	0	0	0	2	10	3	0	3	4	2	1	2	11	13	9	17	2·1
8·3	18	3·53	−0·06	0·61	26	0	0	0	1	20	3	1	4	15	8	2	2	14	4	3	8	2·7
8·6	17	2·97	−0·91	0·98	24	0	0	1	1	23	1	0	0	5	7	3	9	26	8	0	4	3·8
...	10	1·94	−0·54	0·58	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	15	2·62	+0·01	0·33	26	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
...	10	2·63	−0·25	0·96	24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	12	4·59	...	0·95	29	1	0	0	...	...	0	4	...	...	...	...	...	...	...	...	...	...
...	18	6·78	...	1·21	25	7	0	7	...	...	6	0	...	...	...	...	...	...	...	...	...	...
...	20	5 97	...	0·90	5	2	0	5	...	...	9	1	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1905.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. DYSON, F.R.S.	441	Oct.	29·494	50·1	39·2	44·6	−1·4	60·9	9	31·1	18	43·4	2·6	·226	80
		Nov.	29·149	44·3	37·0	40·7	−0·4	53·2	23	24·0	19	40·3	1·7	·215	87
		Dec.	29·552	46·1	38·7	42·4	+4·3	53·2	7	27·0	24	42·9	2·4	·226	83
CORSTORPHINE, (Edinburgh.) Dr T. N. JOHNSTON, F.R.S.E.	165	Oct.	29·791	51·4	36·5	43·9	−2·1	63·4	9	26·8	18	42·1	1·9	·228	85
		Nov.	29·451	45·6	35·5	40·5	−1·0	53·2	22	18·9	19	39·6	1·6	·211	87
		Dec.	29·862	47·2	38·5	42·8	+4·4	53·3	2, 7	27·0	27	42·8	2·1	·231	84
LEITH, (Edinburgh.) JAMES BOLAM, Nautical College, and GEORGE REDPATH.	76	Oct.	29·886	51·0	41·0	46·0	−1·4	63·6	9	33·0	18	45·1	2·7	·240	80
		Nov.	29·543	45·4	38·2	41·8	−0·6	54·7	22	24·1	19	41·5	1·7	·227	87
		Dec.	29·952	47·4	40·9	44·2	+4·6	54·5	6	30·9	31	43·9	2·3	·238	83
DALKEITH, (Edinburgh.) J. WHYTOCK, Gardener to the Duke of Buccleuch.	190	Oct.	29·756	50·0	37·1	43·6	...	63·0	9	25·0	19	43·5	2·3	·233	82
		Nov.	29·435	44·8	35·2	40·0	−1·5	53·0	3, 23	23·0	19	40·0	1·4	·218	89
		Dec.	29·840	46·8	38·4	42·6	+4·3	53·0	2	28·0	28	43·1	2·3	·229	82
SMEATON, (Haddington.) JOHN BLACK, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Oct.	29·854	49·7	37·2	43·5	−3·3	58·0	9	28·0	18, 20	41·8	1·8	·227	86
		Nov.	29·515	44·0	34·9	39·5	−1·4	51·0	23	22·0	19	38·9	1·1	·216	92
		Dec.	29·923	47·4	37·8	42·6	+4·4	54·0	7	28·0	28	42·4	1·9	·231	86
MARCHMONT, (Berwick.) JOHN A. WOOD, Gardener.	500	Oct.	29·408	49·2	35·1	42·2	−3·5	61·0	9	28·0	17	43·2	2·3	·230	82
		Nov.	29·085	43·8	32·3	38·1	−1·8	50·0	23	13·0	19	39·5	1·3	·216	90
		Dec.	...	46·9	34·9	40·9	+4·3	51·0	6, 24	23·0	28	41·0	1·6	·223	87
DUNS CASTLE, (Berwick.) JAMES REDPATH, Gardener to F. S. Hay.	500	Oct.	29·416	49·5	36·7	43·1	−2·6	61·5	9	30·0	17	42·9	2·2	·230	84
		Nov.	29·090	44·3	32·6	38·4	−1·7	51·0	4, 23	16·0	19	38·3	1·2	·207	90
		Dec.	29·512	46·1	35·5	40·8	+4·1	50·5	2, 8	27·0	28	40·8	1·7	·219	86
STOBO CASTLE, (Peebles.) WILLIAM YOUNG. Gardener.	600	Oct.	...	47·5	34·8	41·1	−4·2	59·0	9	22·0	20	39·8	1·6	·218	88
		Nov.	...	43·2	33·1	38·2	−1·5	52·0	22	15·0	19	37·7	1·3	·201	89
		Dec.	...	...	...	...	...	...	...	...	...	41·2	1·6	·225	88
BROOMLANDS, (Roxburgh.) JAMES BRUNTON.	205	Oct.	29·747	51·4	35·3	43·3	−3·2	58·0	1, 8	27·0	17	42·7	2·0	·232	85
		Nov.	29·421	44·2	34·0	39·1	−1·6	52·0	3, 23	16·0	19	38·8	1·4	·209	89
		Dec.	29·853	47·0	39·4	43·2	+5·5	56·0	14	24·0	27, 28	41·6	1·8	·226	86
WOLFELEE, (Roxburgh.) ARTHUR HUME, Gardener to J. T. S. Elliot.	537	Oct.	29·374	50·0	33·8	41·9	−3·4	64·0	9	21·0	18	40·5	...	...	...
		Nov.	29·036	42·6	33·2	37·9	−2·1	50·0	3	16·0	19	36·8	...	...	...
		Dec.	29·472	45·1	36·9	41·0	+4·1	52·0	7	26·0	28, 31	40·2	...	...	...
DRUMLANRIG, (Dumfries.) DAVID INGLIS, Gardener to the Duke of Buccleuch.	191	Oct.	29·791	51·3	34·1	42·7	−4·1	56·0	1, 9	20·0	20	41·3	1·7	·225	87
		Nov.	29·440	44·9	32·4	38·6	−1·4	52·0	2, 22	15·0	19	37·7	1·3	·201	89
		Dec.	29·886	46·8	37·3	42·0	+4·0	52·0	7	25·0	12, 30	40·8	1·2	·230	91
DUMFRIES, (Dumfries.) Rev. WILLIAM ANDSON.	60	Oct.	29·929	51·6	36·5	44·1	−3·4	63·0	9	24·5	17	43·6	2·5	·230	81
		Nov.	29·577	45·6	35·1	40·3	−1·6	52·5	3	19·0	19	40·0	1·5	·217	88
		Dec.	30·023	47·0	40·0	43·5	+4·7	52·0	7	28·0	13	43·0	1·7	·240	86
CARGEN, (Kirkcudbright.) ALEX. PEACOCK, Gardener to Colonel Dudgeon.	85	Oct.	29·900	52·2	36·5	44·4	−3·9	62·0	9	24·0	17	43·8	1·6	·250	80
		Nov.	29·556	45·7	35·1	40·4	−1·4	52·0	3, 23	18·0	19	39·6	1·2	·219	90
		Dec.	29·995	46·8	38·6	42·7	+3·9	53·0	7	28·0	13, 26	42·3	1·1	·246	92
CALLY, (Kirkcudbright.) WM. THOMSON.	120	Oct.	29·893	54·5	35·6	45·0	−2·4	62·8	9	23·9	17	44·9	1·0	·275	93
		Nov.	29·511	45·6	35·3	40·4	−1·7	56·3	4	20·1	19	39·7	1·4	·216	88
		Dec.	29·964	45·7	38·0	41·9	+2·6	50·4	4	29·8	12	42·1	1·7	·231	87

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0-10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0-12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
5·5	15	2·20	−0·27	0·71	14	0	0	0	1	6	3	4	6	1	1	2	5	2	31	13	1	3·3
6·0	20	3·36	+1·06	0·53	1	1	0	0	2	9	2	2	5	4	9	5	8	15	10	3	1	3·0
6·7	14	1·27	−0·97	0·31	25	0	0	0	1	9	2	9	0	0	4	6	9	20	20	2	1	3·9
4·0	16	2·19	...	0·70	14	...	...	...	9	4	...	...	22	1	7	0	1	1	16	8	6	1·5
4·6	21	3·77	...	0·70	1	1	0	0	7	6	2	1	10	2	21	0	2	4	14	3	4	1·8
5·3	16	1·47	...	0·30	8	0	0	0	2	8	1	1	5	0	8	2	1	4	37	2	3	2·4
6·4	18	2·31	−0·28	0·87	14	1	0	0	5	14	2	1	10	2	2	2	2	4	28	12	0	4·2
6·2	23	3·58	+1·27	0·75	3	2	1	0	6	15	1	2	4	6	14	4	4	6	16	6	0	4·0
7·0	14	1·40	−0·89	0·31	25	0	0	0	4	15	1	1	4	0	4	2	10	12	28	0	2	4·1
5·7	...	...	...	...	...	1	0	0	1	8	1	2	9	3	1	3	1	12	18	15	0	1·6
5·7	...	...	...	...	...	2	1	0	3	7	0	2	1	4	7	7	6	12	15	8	0	1·4
5·5	...	...	...	...	...	0	0	0	3	8	0	0	0	3	4	3	4	12	32	4	0	2·0
4·9	13	2·52	+0·04	0·96	15	2	1	0	0	3	0	0	16	8	7	0	0	10	16	5	0	1·2
5·0	18	3·59	+1·19	0·60	2	1	1	0	3	5	0	3	4	15	9	8	1	12	14	2	0	1·5
4·6	9	0·76	−1·26	0·24	25	0	0	0	2	19	0	5	0	1	5	8	9	23	15	1	0	1·5
4·7	21	3·63	+0·09	0·77	14	6	0	1	7	6	0	5	13	3	8	1	1	6	23	7	0	3·3
5·4	21	4·64	+1·39	0·85	1	3	0	0	6	10	2	4	10	4	14	5	7	4	7	9	0	3·5
6·3	10	0·78	−2·22	0·35	25	0	0	0	4	13	3	8	4	2	4	8	4	14	25	1	0	4·2
5·8	23	3·95	+0·58	0·57	14	1	0	3	2	9	0	0	1	5	1	1	3	7	20	24	0	1·0
6·1	23	4·76	+1·77	1·08	1	3	0	0	7	13	2	0	3	17	5	4	1	11	9	10	0	0·9
6·6	11	0·50	−2·56	0·31	25	0	0	0	3	12	2	2	0	6	1	3	1	23	18	10	0	1·4
6·0	12	3·00	−0·17	...	...	0	0	0	2	8	0	4	6	2	2	7	9	12	14	10	0	3·5
6·7	16	1·90	−1·24	...	...	3	0	0	1	8	1	2	9	4	9	9	5	13	9	2	0	3·1
6·9	12	1·70	−1·89	...	...	0	0	0	1	13	0	7	3	3	6	3	1	15	29	2	0	4·3
6·1	20	2·78	+0·02	0·56	14	1	0	0	1	10	1	0	2	23	1	0	0	21	7	5	3	3·6
6·8	23	3·65	+1·11	0·72	1	0	0	0	0	7	4	3	0	18	7	3	1	30	0	0	6	4·6
6·2	9	0·68	−1·64	0·78	5	0	0	0	0	2	2	5	0	0	10	1	0	49	0	0	2	4·8
6·4	19	2·05	−1·92	0·52	14	4	0	1	1	8	1	1	8	5	1	3	1	11	15	18	0	1·0
6·8	22	3·96	−0·08	0·87	1	2	0	0	1	10	1	1	3	10	0	5	5	16	11	10	0	1·4
6·5	14	0·96	−3·31	0·28	25	0	0	0	2	8	0	1	0	1	1	3	7	26	23	1	0	2·0
...	14	3·25	−1·31	0·76	8	0	0	0	...	...	0	0	25	1	0	3	0	8	2	23	0	...
...	18	4·25	−0·30	0·68	10	1	0	0	...	...	1	1	8	10	0	5	3	11	1	22	0	...
...	23	3·95	−0·78	1·12	24	0	0	0	...	...	0	0	2	0	1	4	8	17	5	25	0	...
...	12	2·62	−1·04	0·63	29	0	0	0	...	...	0	2	11	7	2	4	0	6	7	21	4	2·2
...	21	3·86	+0·07	0·77	10	0	0	0	...	...	4	1	7	13	1	13	0	10	7	7	2	2·4
...	19	1·83	−2·36	0·49	5	0	0	0	...	...	1	0	0	7	4	9	3	19	10	6	4	2·5
4·8	11	2·80	−1·64	0·58	29	0	0	0	0	2	0	0	9	19	1	4	3	3	10	13	0	1·2
6·2	16	4·75	+0·39	0·80	10	1	0	0	1	8	0	0	11	6	9	12	5	4	9	4	0	1·4
6·3	12	2·02	−2·90	0·68	5	0	0	0	1	6	0	0	2	0	7	5	21	11	13	3	0	1·
...	16	4·78	−0·02	0·87	28	0	0	0	...	...	0	0	1	22	0	7	2	12	5	13	0	1·8
...	17	5·10	−0·16	0·80	25	2	0	0	...	...	0	2	3	21	4	11	1	7	1	12	0	2·8
...	20	2·97	−2·39	0·48	24	0	0	0	...	...	1	2	1	10	4	15	1	9	4	18	0	2·2

BRIGHT SUNSHINE.

STATIONS.		1905.	SUNSHINE.		
		Months.	Total Observed.	Difference from Average.	Percentage of Possible.
			hours.	hours.	%
DEERNESS,	(Orkney.)	Oct.	62·2	−18·5	20
		Nov.	40·1	+ 3·2	18
		Dec.	19·6	− 6·0	11
INVERNESS,	(Inverness.)	Oct.	57·6	−12·7	18
		Nov.	55·9	+12·3	24
		Dec.	39·2	+14·0	20
FORT AUGUSTUS,	(Inverness.)	Oct.	69·3	+ 8·3	22
		Nov.	27·2	+ 8·2	12
		Dec.	18·1	+ 9·6	9
CRATHES,	(Kincardine.)	Oct.	94·5	...	30
		Nov.	52·0	...	22
		Dec.	40·9	...	20
BALRUDDERY,	(Forfar.)	Oct.	117·7	...	37
		Nov.	64·5	...	27
		Dec.	...	...	...
PAISLEY,	(Renfrew.)	Oct.	112·3	+28·3	36
		Nov.	40·4	+ 4·4	17
		Dec.	22·2	+ 0·2	11
GLASGOW,	(Lanark.)	Oct.	90·3	+21·0	29
		Nov.	27·3	+ 1·1	11
		Dec.	8·5	− 7·8	4
EDINBURGH,	(Edinburgh.)	Oct.	95·3	− 1·2	30
		Nov.	69·6	+ 2·6	28
		Dec.	52·9	+17·4	24
DUNS CASTLE,	(Berwick.)	Oct.	86·0	...	27
		Nov.	55·3	...	23
		Dec.	49·7	...	24
MARCHMONT,	(Berwick.)	Oct.	83·5	− 1·9	26
		Nov.	56·9	+ 5·8	24
		Dec.	40·3	+ 8·2	19

UNDERGROUND TEMPERATURE.

STATIONS.	1905.	UNDERGROUND TEMPERATURE.				
		Depth in Inches.				
	Months.	3	12	22	36	48
		°	°	°	°	°
DUNROBIN, (Sutherland.)	Oct.	42·8	46·5	47·2	...	...
	Nov.	39·4	42·8	43·1	...	...
	Dec.	39·3	41·9	41·8	...	...
ARBROATH (Forfar.)	Oct.	42·7	44·4	45·3	...	...
	Nov.	40·2	40·5	42·0	...	...
	Dec.	40·2	39·9	40·7	...	...
POLTALLOCH, (Argyll.)	Oct.	44·4	46·5	48·6	...	...
	Nov.	41·0	42·3	44·5	...	...
	Dec.	43·1	43·2	43·6	...	...
ROTHESAY, (Bute.)	Oct.	...	...	...	...	49·9
	Nov.	...	...	...	...	46·0
	Dec.	...	...	...	...	44·8
PAISLEY, (Renfrew.)	Oct.	44·0	45·5	49·4	...	...
	Nov.	40·5	41·5	44·6	...	...
	Dec.	42·9	43·0	44·5	...	...
CORSTORPHINE, (Edinburgh.)	Oct.	42·0	46·3	47·5	48·8	49·9
	Nov.	39·0	41·0	42·0	43·5	45·5
	Dec.	40·0	40·9	41·2	41·7	43·3
SMEATON, (Haddington.)	Oct.	43·9	46·3	47·6	...	...
	Nov.	38·8	39·9	40·8	...	...
	Dec.	39·6	39·9	39·9	...	...
MARCHMONT, (Berwick.)	Oct.	42·2	44·4	46·7	...	...
	Nov.	38·3	39·8	41·7	...	...
	Dec.	39·5	40·0	41·3	...	...

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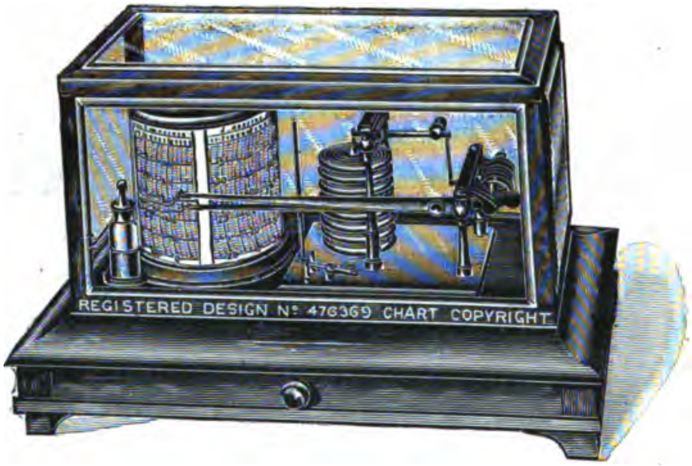

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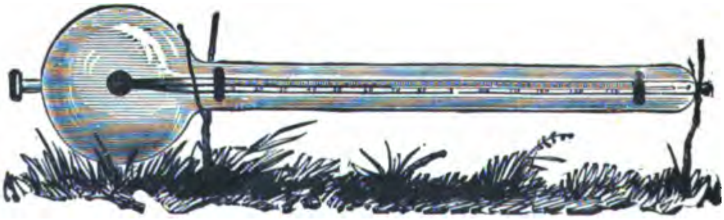

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MINUTES OF MEETING OF COUNCIL OF THE SCOTTISH METEOROLOGICAL SOCIETY, held on 11th November 1907.

THE Council authorised the insertion of the following Papers in the forthcoming Number of the Society's *Journal*:—

1. Memorial Notices of the Work of Dr. Alexander Buchan.
2. Thunderstorms at the Ben Nevis Observatories and on the Scottish Coasts.
3. The Daily Weather Report.
4. Rain-producing East Winds and their Influence on the Summer of 1907.
5. Review of "Climatological Atlas of India."
6. Reports from the Council to the General Meetings on 19th March and 9th July 1907.
7. Additional Returns of Rainfall for 1906.
8. Meteorological Returns from Scottish Lighthouses for 1906.
9. Meteorology of Scotland for 1906, with Tables.

The following have been elected Members of the Society:—

Life Members.

John Colville, 4 Drumsheugh Gardens, Edinburgh.
Colonel Charles Hope, Cowdenknowes, Earlston.
Duncan Mackinnon, 23 Great Winchester Street, London.
S. Mitchell, M.D., Leeds.

Annual Members.

J. J. Craig, Addis Ababa, Abyssinia.
William G. Curphey, 7 Derby Crescent, Glasgow.
Professor Frank Watson Dyson, F.R.S., Royal Observatory, Blackford Hill, Edinburgh.
Robert Gourlay, LL.D., 5 Marlborough Terrace, Glasgow.
Norman T. Nasmyth, of Glenfarg, Abernethy.
Mrs. Nelson, 9 Ainslie Place, Edinburgh.
Lewis P. Orr, F.F.A., 24 Grosvenor Street, Edinburgh.
Albert E. Pullar, M.I. Mech. E., Durn, Perth.
Lady Steel, 32 Colinton Road, Edinburgh.

ARTHUR MITCHELL, *Chairman.*

1.

CONTRIBUTIONS TOWARDS A MEMORIAL NOTICE OF ALEXANDER BUCHAN, M.A., LL.D., F.R.S.

I.

By Sir ARTHUR MITCHELL, K.C.B., Vice-President of the Society.

THE Scottish Meteorological Society came into existence in 1855, and Dr. James Stark, who was at that time the head of the Statistical Department of the General Registry Office of Births, Deaths, and Marriages in Scotland, may be correctly regarded as its founder. Men like Sir John Stuart Forbes of Pitsligo, Mr. David Milne-Home of Milne Graden, The Marquis of Tweeddale, Sir J. Buchan Hepburn of Smeaton, Mr. Arthur Forbes of Culloden, Mr. Thomas Stevenson, Engineer of the Northern Lighthouses, and Mr. Alexander Cruickshank of Aberdeen, were among his early supporters. He acted as Secretary till 1858, and during that time he was a busy worker and a prolific writer in the interest of the Society.

At the end of 1858 the Society was reconstituted, and Mr. Joseph David Everett was then appointed Secretary. He resigned in the following year, in order to fill the position of Professor of Natural Philosophy in King's College, Nova Scotia. His career, after he left the Society, was one of great distinction as a student of Physics.

He was succeeded in the secretaryship by Mr. Andrew Hutton Burgess, who held the office till 1860.

I became a member of Council, and one of a Committee, called the Working Committee, in 1858 when the Society was reconstituted, and it was remitted to Mr. David Milne-Home, the Convener of the Council, and myself to interview the applicants for the post that Mr. Burgess had vacated, and to recommend a successor. Dr. Buchan was one of the candidates, and we had no hesitation in selecting him. Our recommendation was accepted by the Council, and he was appointed. He thus held the office from 1860 till he passed away on the 13th of May of this year, 1907. Few men have spent so many years, close on half a century, steadily in one prominent position, and fewer still have performed the duties of such a position, all through, with such high distinction. He died in harness, with his neck as firmly on the collar as it ever was—keenly engaged at the very end in a research of great magnitude and difficulty.

In consequence of my long and close association with him in his career—from start to finish—I have been asked to give the more personal part of what is to be written in memory of him in this number of the Society's *Journal.*

How clearly I remember that meeting in a room of the New Club when Mr. Milne-Home and I first saw him! There was no swithering in our confidence that not only had we picked out the best man, but that we had found a man eminently and exceptionally fitted for the position. Yet at the time he was only a country schoolmaster, with a full University training, however, and the M.A. degree, and also with a record of deep interest in the scientific study of Botany. He had no piece of meteorological work to show us on which to found his claim; but when he came to speak to us of Meteorology, he showed a large understanding of its problems and of the bearing of physical science on their solution. We took him on faith to some extent, but it was a faith that quite easily built a bridge to take us over to a settled conviction. This is briefly the story of the choosing of Dr. Buchan.

During more than forty-seven years thereafter he and I were in constant intercourse in connection with his work, and during that long time there never occurred the faintest misunderstanding. He was a man to ride the water on. He failed you never. I admired his great abilities and his broad catholic scholarship, but I still more admired his high character. He and I were fast friends. I think he was almost as well known to me as he was to the wife and son, who made his home so happy. He was a good man and true, as well as a very distinguished man of science. He worked for the love of work. For many long years he seemed to me untirable, and he set a great example of strenuous perseverance to his many friends.

Others will tell you of the extent and high quality of his scientific work. Mr. Omond, who had such close dealings with him all through the life of the Ben Nevis Observatories, will tell of his work in connection with them; Professor M'Kendrick, who was almost a friend of his boyhood, will speak of his enthusiasm as a botanist; Dr. Shaw, of the London Meteorological Office, Professor Hann, of Vienna, Sir John Murray, and Dr. H. R. Mill, will tell you of their connection with him, and of his great services to meteorological science in the broad sense.

But I claim to say a word about some work which he and I did together, and which does not fall so naturally to the gentlemen I have named. I refer to an inquiry into the relation of seasons to deaths from different diseases. Our first effort dealt with the deaths in the great City of London over thirty-five years, and our next with the deaths in New York over seven years. We aimed from the outset at reaching some conclusions in the matter which might be regarded as constants. But not long before his death it was agreed between us that we should test the question of constants for London by an examination of the ten years which followed the 35-year period, and the figures for this period have been extracted, the calculations made, and the curves constructed; but Dr. Buchan has gone, and I have no hope of being able to complete the examination.

Those who recall their associations with Dr. Buchan are certain to remember the Niece who for so many years sat beside him as he worked. Jessie Hill Buchan's faithfulness to her uncle was constantly in evidence, but it was of her helpfulness to him—of the assistance she rendered—that he so often spoke. As a calculator and transcriber she was an expert of a high order. But it was her warm interest in all the concerns of the Society, and her loyalty to it, that attracted general admiration. She died suddenly in 1905 while still actively at work, and her death was the loss of an eye and a hand, as well as a head and a heart, to Dr. Buchan. Nothing that anyone could write or say of him and his work would, in my opinion, be complete without a kindly reference to Miss Jessie.

Let me now give, as briefly as I can, a list—a mere list—of the more important pieces of work that he accomplished, of the higher honours that were bestowed on him, and of the numerous positions of dignity that he occupied.

In 1867 he published the *Handy Book of Meteorology*, which ran to a second edition in 1868.

In 1869 he communicated a paper to the Royal Society of Edinburgh on "The Mean Pressure of the Atmosphere and the Prevailing Winds over the Globe." This piece of work has everywhere had an outstanding influence on the study of meteorology.

In 1871 he published his *Introductory Text-Book of Meteorology*.

On the return of the *Challenger* Expedition, the meteorological data accumulated during the voyage were placed in his hands for discussion, but the elaborate report which followed in 1889 on "Atmospheric Circulation" was based, not merely on the *Challenger* observations, but on meteorological statistics from all parts of the world.

A Report on "Oceanic Circulation" was also contributed in 1895 to the *Challenger* Reports.

In 1899, in conjunction with Dr. A. J. Herbertson, he edited the meteorology volume of *Bartholomew's Physical Atlas*.

He had a large share in the promotion and establishment of the High- and Low-level Observatories at Fort William. The Observatory on the summit was opened in 1883, and the observations were made on a plan which he drew up. Down to its close in 1904 he was in constant communication with the Superintendent, and the discussion of the observations made there occupied much of his time.

A list of the important papers he contributed to the Society's *Journal* is to be given as an Appendix to these notices of his life. Some of the more important deal with the Temperature and Barometric Pressure of the British Isles, and the Rainfall in Scotland.

He was the author of many articles in the *Encyclopædia Britannica* and in *Chambers' Encyclopædia*, and was long a steady contributor of reviews of Meterological Literature to *Nature* and to other scientific journals.

From 1878 to 1906, that is for twenty-eight years, he was the Librarian of the Royal Society, and when he died he was one of the Vice-Presidents.

He received from the Royal Society the Macdougal Brisbane Medal in 1876 and the Gunning Prize in 1893.

He was Secretary of the Royal Society Club from 1883 till his death.

He became a Fellow of the Royal Society of London in 1898, and for many years was a member of the Committee in London that administers the Government Grant for Scientific Research.

The honorary degree of LL.D. was conferred on him by the University of Glasgow in 1887.

In the same year he became a member of the London Meteorological Council, and continued to be so till 1904, when that body ceased to exist.

In 1901 he was selected by the Royal Meteorological Society of London as the first recipient of the Symons' Medal.

For many years he was one of the Examiners for the Diploma of Public Health for the Royal Colleges of Physicians and Surgeons, and in that position I was his colleague.

He was an Honorary Member of the Royal Society of Sciences of Upsala, of the Philosophical Societies of Glasgow and Manchester, and of Meteorological Societies all over the world.

He was President of the Edinburgh Botanical Society in 1870–71.

I could easily stretch out this list of high-class work and of well-merited honours. But I think I have said enough to cause wonder that so much could be got into one life, even though that life was not short. Meteorology prevades the whole story, and we run the risk of thinking of Dr. Buchan as a one-horse man—a dry-as-dust man of figures, means, averages, schedules, tables, maps, and curves. But nothing could be farther from the truth. He was saturated with the writings of the older Poets and Dramatists, and quoted from them endlessly. He was a studious reader of the best literature of his own and of a past age. I have heard him often defend Michael Bruce's claim to the authorship of the "Cuckoo"—with heat and with all the vehemence that his delicate throat allowed. He thought the poem perfect—more perfect than perfect, if such a thing be possible, because of its having been written by a young fellow, born, as he himself was, in the little village of Kinneswood. He loved both the poem and the poet, and did battle for Bruce with his heart as well as with his head. He was not a man to be praised moderately. His merits were as many as they were great. I wish I could better have shown how many and how great.

II.

By Professor J. G. M'Kendrick, F.R.S.

It was in the summer of 1858 that I first made the acquaintance of Alexander Buchan. At that time I was much interested in botany and in the collecting of plants, more especially ferns. One summer afternoon, with my vasculum on my back, I was traversing the famous Roman camp at Ardoch, near Braco, in Perthshire, and I saw two men stretched at full length on the green sward. They hailed me, and one of them, a tall man with a silky beard, remarked that I was botanising, and he then asked me what I was looking for. I replied that I had been told that a fern, the moonwort, was said to grow in the camp, but that I had not been able to find it, although I had searched for it several times. The tall man said, with a hearty laugh, "Look at your feet." I looked down, and there I saw for the first time *Botrychium lunaria*, and at the same instant I made a life-long friend.

Buchan was then the headmaster of the Free Church School of Dunblane, and his companion, whose name has slipped from my memory, held a similar position in Blackford, a well-known little town about four miles from Braco. He invited me to call upon him at Dunblane, and a few days after I found my way to his lodgings. We had a long walk down the wooded glen between Dunblane and Bridge of Allan, and, with Buchan's help, I added to my botanical treasures. In particular, I remember that he took me to a spot where we found *Listera Nidus-avis*, the bird's nest orchis. He gave me valuable advice regarding a visit I intended to make to Ben Ledi, and he drew a plan for me so that I might reach a particular spot where I would find *Polystichum Lonchitis*, the rare alpine shield fern. His kindness and interest in my zeal as a young botanist made a deep impression on me, and often afterwards he aided me in naming and classifying plants. I remember he told me that he took a practical interest in field botany at an early age, and, in 1858, he had already a large herbarium of British plants. I have met with very few who had a wider or more accurate knowledge of the British flora, and his knowledge extended to the identification of grasses, mosses, and lichens, plants which often are imperfectly known by even good field botanists.

We were again brought together in the late autumn of 1861, when I found him in Edinburgh. He was then attending classes in the faculty of arts in the University. Circumstances led me to pursue in Edinburgh my medical studies which I had begun in Aberdeen, and I was thus during the next three years thrown much into the society of Alexander Buchan. He then was in lodgings in St. James' Square, along with the late David Mitchell, who afterwards became headmaster of the Morgan Academy in Dundee. Buchan threw himself with great zest into his higher studies, and he took prizes in the classes of Mathematics, Natural Philosophy, Logic and Metaphysics, and Moral Philosophy. These chairs were then held by Kelland, Tait, Campbell Fraser, and MacDougall. He also took more than one course of Botany, then his favourite science, with Professor John Hutton Balfour. He heard Sir William Hamilton lecture, and he was much impressed, but his philosophical ideas were moulded mostly by Professor Campbell Fraser. No Professor had more influence over him than Tait, who became his life-long friend. As regards classics, he took more kindly to Latin than to Greek, and, in after years, his favourite authors in Latin were Horace, Virgil, and Tacitus.

Alexander Buchan had a broad and comprehensive mind. It was scientific in its methods, and he had a keen interest in the progress of science, but he had also a love of, and a refined taste for, literature. Even as a country schoolmaster he read deeply both prose and poetry, and the books he read were always of the first order. The writings of Pascal were familiar to him, and they impressed him much. A deep admiration for Thomas Chalmers led him in early life to read the whole of his writings, a feat accomplished by only a few, and he was wont to say that this was an important factor in his mental training. Among his favourite authors during his whole life were Burns, Scott, Wordsworth, Coleridge, and Tennyson; he never grew weary of the Waverley Novels; and he could repeat, even in his later years, large portions of Scott and Wordsworth. No one was a greater admirer of John Brown and Robert Louis Stevenson. His literary taste was always of a pure and high order, and he had little patience with much of the ephemeral literature of the present day.

As to his qualities as a schoolmaster, I cannot do better than quote from a letter written to me by the Reverend William Guthrie, M.A., of Dysart, and dated "United Free Church Manse, Dysart, 20th June 1907." Mr. Guthrie, who was one of Buchan's pupils in Dunblane, has kindly given me permission to make use of his letter.

"His stay in Dunblane extended over four or five years; it commenced in 1857. I was under Dr. Buchan's tuition during the whole period of his stay in Dunblane as teacher in the Free Church School there, and to his help and influence I owe more than I can tell. . . . He was a fine example of the old order of teachers, who charged themselves with the moral as well as the intellectual training of their pupils; who opened and closed each school day with praise and prayer, and drilled their classes into a thorough acquaintance with the Shorter Catechism and the histories of the Kings of Judah and Israel; and, along with this, taught the elements of a sound education. There were teachers of that time who freely used the rod, but Dr. Buchan never had recourse to it as a spur to diligence, but solely as the punishment of some moral baseness. His kindly presence inspired us with the love of learning, and made our tasks a real delight. Our lessons were no mere exercises of memory, for his more advanced pupils especially were taught to appreciate the beauties of poetry, and were so brought under the spell of the poets that Milton, Cowper, and Shakespeare were eagerly studied.

"Dr. Buchan was known in Dunblane as an ardent botanist. He was frequently seen returning home from the glens and woods with his case full of specimens slung over his shoulder. Some of his scholars, of whom I was one, would occasionally accompany him on these expeditions. The summer evenings and Saturdays thus spent are a pleasant recollection. In fact, life in those days was made rich and full by our communings with Nature and by our studies in the poets, the interpreters of Nature. It is well known that Dr. Buchan's studies in poetical literature were continued all through his after-career. While dealing with scientific processes and results, to which he devoted so much patient labour, he seems to have found a relief and refreshment amid those laxing researches in occasional draughts from the wells of Helicon. Science and poetry probably lay very close to each other in his mind, and he might not have become the distinguished meteorologist he was had he been destitute of the poetic temperament and appreciation of Nature.

"Books of travel made up a considerable portion of his library in those days. He read them as soon as they were published, and the fresh discoveries made in the Polar regions and in Africa were communicated to the highest class and to the pupil teachers. The map of Africa, which was one great white blank with a few names along the coast line, was filled in by Dr. Buchan's hand, with the lakes and rivers discovered by Livingston and others. This he called 'Keeping the atlas up to date.' . . .

"I would like to add that Dr. Buchan taught a class in French after the school was dismissed; it was attended by both sexes; and sometimes he conducted well-forward readings in Latin and Greek. A hard worker himself, he taught us to find a joy in attacking some difficult passages or a problem. His genial, sympathetic nature was ever a light to encourage us."

Dr. Buchan often spoke of a famous botanical excursion he made to the Alps in August 1858. In the year 1857, it was suggested to Professor

J. Hutton Balfour, who then held the Chair of Botany in the University of Edinburgh, now so worthily occupied by his son, Professor Isaac Bailey Balfour, that he should organise an excursion to the Alps. In 1858 a party of twenty-four started, under the direction of Professor Balfour. The party included Professor Balfour, Dr. Fayrer (afterwards Sir Joseph), of Lucknow, Barclay, then Sheriff-Clerk of Fifeshire, Buchan, Ramsbotham, Hill, Radford, Menzies, Robert Maclagan, Turnbull, Williamson, Johnston, Patrick Graham, Bell, Soper, Logan, Rodger, Marwick, Jones, and Dubuc. The intention, which was carried out, was to reach Zermatt, near the roots of Monte Rosa and the Matterhorn, and to botanise a district whose flora is so singularly rich in the rarest alpine plants that no other spot in Europe is comparable to it. Buchan kept notes, and these he transcribed into a book, a perusal of which has been kindly afforded me by his son, Dr. A. Hill Buchan. A merry band they evidently were, with youthful health and vigour, and there was a flow of wit and jest and song such as one would expect in such a company. Even the venerable Professor indulged in a pun now and then. The magnificent scenery appealed strongly to Buchan's poetical nature, and he appears to have simply revelled in enjoyment. Here is one extract from the little book—

> "This was understood to be our second best botanical district. Accordingly, we were ready to start next morning by nine o'clock. There was great bustle when we left in the morning, of tourists, guides, mules, etc., about the door. The guides strongly suggested comparisons of vultures, as they preyed on the hapless travellers. As regards the weather, it was a 'great morning,' fit prelude to a botanically great day. We scrambled up over the smooth rocks in glee, securing varieties at every step.
>
> "In a little while we reach the fields of snow, close to and around whose skirts are fringed edges of countless clusters of various gentians of intensest blue. The lowly *Androsaces* present an entire mass of rosywhite flowers. These everyone admired and gathered. In moist peaty places *Ranunculus glacialis* stragglingly spread its flesh-coloured flowers and purplish green leaves, and struck its succulent roots wide and deep into the black spongy moss. In drier situations, and requiring for its detection a little of the botanist's eye, the many branched *Arenaria biflora* crept through the grass close to the ground, its white, semi-transparent flowers appearing like strings or clusters of stars. About midday we lunched, seated on a dry knoll quite overrun with *Azalea procumbens*, with its pretty scarlet flowers. The blue gentians, the snowfields, the glittering glaciers, and the Alps themselves, called up vividly Coleridge's Hymn to Mount Blanc."

This is a beautiful picture. It shows Alexander Buchan's love of Nature and intense enjoyment of all that is beautiful.

I leave it to others to give an account of Buchan's numerous contributions to meteorological science, and of his methods of research, which were in many respects peculiarly his own. There can be no doubt he made his mark on science, but perhaps he has left even more than this in the love and esteem with which those of us who knew him best will always remember him. His deeply pious nature, his entire freedom from cant of every kind, his liberality of thought, his clear outlook on all subjects, always gave the impression that we were in the presence of a good man. There was a kindly sympathy, too, which led him at once to encourage and help every one who might require his aid either in scientific work or in other ways. His sense

Photo by Moffat, Edinburgh.

Alexander Buchan

JOURNAL

OF THE

SCOTTISH METEOROLOGICAL SOCIETY

List of the Office-Bearers of the Scottish Meteorological Society,

NOVEMBER 1907.

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Society's Chambers, 122 George Street, Edinburgh.

for immediate study. The opening of the Low-level Observatory in 1890 completed the equipment of the Ben Nevis Observatory, and Dr. Buchan devoted much of his time in later years to the discussion of the records of the double Observatory. He attacked the very difficult problem of the utilisation of high-level observations in an original and characteristic manner. His first task was to construct a table showing the average difference between the high- and low-level barometers for all sea-level pressures and temperatures. A standard for comparison was thus established, and the weather of each day compared with the departures of the difference between the two barometers from this standard difference. There was no attempt at comparison with any theoretical relationship between high- and low-level observations—the observed data were taken, errors due to extraneous causes eliminated, and the facts disclosed by the observations stated clearly, and with little comment, in the papers appended to the volumes of Ben Nevis Observations.

As this work progressed I was more and more impressed with Dr. Buchan's power of handling masses of statistics so as to bring out the underlying facts,—the same power that had enabled him to collate the observations from all parts of the world in his *Handy Book* and his "Atmospheric Circulation" in the *Challenger* Reports. His method of discussing the relations of a high- and low-level station, by basing the comparison on the "vertical gradient" of the barometer, was practically a new departure in meteorology; it remains to be seen whether it will lead to as valuable results as the use of "horizontal gradients" among sea-level barometric pressures has done. The latter is a fundamental fact in meteorology, it is at the root of the present methods of forecasting weather, and its world-wide establishment is very largely due to Dr. Buchan. Professor Cleveland Abbe, editor of the United States *Weather Review*, in a recent letter, after expressing his sorrow at the death of his friend Dr. Buchan, says—

> "It is not so much our duty to mourn his death as to rejoice in his life and to follow the example that he has set us. The work that he was devoted to will be carried on by future generations, and the part that he has played in its development will never be forgotten. . . . I have always felt that it was not quite fair to him to allow the so-called Buys Ballot's Law to have any other name associated with it excepting Buchan's. Buys Ballot enunciated a comparatively crude rule for weather forecasting in Holland, but Buchan showed that this rule was simply the local expression of two rules, namely, the rotation of the winds and the progress of the storms, and it is he to whom we owe the very pretty rule that is ordinarily called Buys Ballot's Law; but he was too generous and kind to make any such claim for himself."

Dr. Buchan, in his papers in the Society's *Journal* and elsewhere, was careful to base his statements on observed data; he liked always "to make the figures tell the story," as he often said, and the clearness and simplicity with which they do so, often conceals the skilful and laborious work that was needed to arrive at this result. To work with Dr. Buchan was a privilege and an education. Others have referred to the work he did in his earlier years and its world-wide influence; I, however, specially desire to express my sense of the great influence that his high personal character and absolute honesty of workmanship had on those who worked with him.

V.

By Professor **Hann**, Vienna.

Among the numerous valuable treatises by which Alexander Buchan did so much to promote the study of meteorology, his epoch-making work on "The Mean Pressure of the Atmosphere and the Prevailing Winds of the Globe" (*Trans. R. S. E.*, vol. xxv., 1869) has exercised the greatest influence on the further development of the science. This work alone would be sufficient to secure for Buchan a foremost place among meteorologists of all ages. It is even more important than the celebrated work of Dove, "The Distribution of Heat over the Surface of the Earth" (Berlin, 1852), for it is of much wider application, and of greater theoretical significance. One may almost say that it became a starting-point for the newer meteorology.

Of special importance also are Buchan's numerous discussions of the relations between the distribution of atmospheric pressure and long-continued weather anomalies. These papers broke ground for a sound advance of meteorology in central Europe, especially in Germany, where Dove's views as to the control of the weather by the Polar and Equatorial currents had struck deep root, and reigned almost supreme. This theory regarded the winds as bringing with them high or low pressure, and the contrary view, that the distribution of pressure determines the wind, received little attention. Buchan's work, based on a study of synchronous observations of the distribution of weather phenomena, stood in most effective contrast to these preconceived theoretical ideas. In this connection special mention should be made of an important paper, "On the Cold Weather of March 1867 as illustrating the Relation between the Temperature and the Pressure of the Atmosphere." (*S. M. S. Journal*, vol. ii. p. 66.)

Buchan was probably also the first to prove from actual observations how dominating is the influence on the weather of North-western and even of Central Europe, of the greater or less development of the minimum of pressure near Iceland, or of its occasional complete suppression.

The numerous important articles by Buchan on the climate of the British Isles, many of them illustrated by charts of isotherms and isohyets, require no mention here, but I should like to point out how wide Buchan's outlook was, and how assiduously he promoted meteorological observations in other parts of the world. The results of these have been published in the *Journal of the Scottish Meteorological Society*, which has thus become a valuable storehouse of information for climatology and general meteorology.

VI.

By W. N. **Shaw**, Sc.D., F.R.S., Director of the Meteorological Office.

My personal acquaintance with Dr. Buchan dates back only ten years, and the greater part of the time we spent together was devoted to the consideration of questions of ways and means. Little opportunity was left for such discussion of meteorological questions as would throw light upon the scientific achievements and ambitions of his life. We had to face so often and in such various ways the question "Is it any use?" that I am disposed to let that question suggest a few sentences in commemoration of our lost colleague.

I need hardly say that, however appropriate such a question may be for a Government institution, it is not one which ought to be thrown at a scientific man. The real question is, Does the work stimulate that devotion to the extension of knowledge and the widening of our horizon which are always the characteristics of scientific work? If it does, utility will manifest itself in more ways than one. I have often wondered what view the strict utilitarian would have taken of Maxwell's speculations upon the relation of the electro-magnetic field to the hypothetical light-ether, during the lifetime of that great genius. How would he have received a prophecy that in less than thirty years it would lead to an astonishing intellectual development and to wireless telegraphy as a commercial practice?

But it is not for me to demur to the question being put. It has recently come to me again in a form which I welcome, because it is suggestive. A few weeks ago I was asked by an official of great influence in educational administration, whether maps of mean isobars and winds of the globe for January and July were of sufficient value to be included in a physical atlas for schools. He could imagine a schoolboy attaching some meaning to average pressure, say in London, but, as wind varied in direction and in strength, its mean value was an abstraction altogether beyond the reach of schoolboys.

In replying, I could only take a page out of Buchan's work and say that mean pressure at a single place might convey a very definite idea, but it was really a useless one; that it was distribution of pressure, not pressure at any isolated spot that had an eloquent meaning; that the distribution of pressure over the globe gave a sense to the "mean wind" which any schoolboy could appreciate. It would convey to him an idea of the circulation of the atmosphere that would be a possession for his whole life.

So slowly does knowledge diffuse itself that even schoolmasters are not aware of the changes wrought in the aspect of affairs by the charting of isobars for the world. Only recently, after a lecture on the general circulation of the atmosphere as based on isobaric distribution, a schoolmaster challenged me as to whether I really meant that the flow of air along the earth's surface, or anywhere else, was not a direct transfer from high pressure to low pressure. I confess that until then I had thought that Buys Ballot's Law and Buchan's extension of it to average distributions for the world, were commonplaces of geographical teaching as they are of meteorological practice.

Surely this widening of our knowledge, which never fails to astonish and attract, may result at no great distance of time in a useful broadening of the conventional views of school dynamics. So ready are we to take our dynamics from the text-book instead of from the facts of Nature, that it is at least rare to find anyone who is content to deal with variations of motion and does not regard the state of "rest" as the natural and normal condition, the departures from which must be explained. I doubt if even a matriculation examination at a modern University has convinced its successful candidates that motion is as natural and more frequent than rest.

Buchan has at least demonstrated by his maps that the atmosphere never is, and in our time never will be, in a state of rest; that not motion, but variations of motion from the mean values, are what we have to explain. That an atmospheric calm requires a combination of conditions that are not normal but unusual, and in relation to the wide distribution of the atmosphere, strictly even contemptibly local.

Meteorology is essentially a co-operative science. The area of observation gradually extends and new ideas creep in like the flowing tide. So dependent is each upon the contributions of others that it is difficult to assign the credit for this or that advance in our knowledge. Nor is it always easy to say exactly what the advance is. We do not require mean isobars for the globe to tell us that the prevailing direction of the wind in the British Isles is south-westerly, and a corresponding statement is true for every other part of the world with which anyone happens to be well acquainted. But we are not all personally acquainted with all parts of the world, and to give a general idea of the winds all over the world that is as true as, perhaps more true than, the result of personal acquaintance—that is an achievement.

The scientific faith and patience that carried the work through, depending upon the facts alone, in spite of inevitable defects in the observations, and the labour of collecting them, were Buchan's. Ours is the new starting-point that his results afford. He has given us sea-level isobars—who will give us the appropriate modifications of those parts of his maps where the land is high above the level of the sea? He has given us normals—who will express for us the deviations from the normals and explain their causes?

VII.

DR. ALEXANDER BUCHAN AND RAINFALL.

By Hugh Robert Mill, D.Sc., Director of the British Rainfall Organisation.

I am glad to have the opportunity of honouring the memory of my old master and steadfast friend in the pages of that *Journal* which he has made to live with so much of his life-work. Older friends, his contemporaries and fellow-workers in the Scottish Meteorological Society, have no doubt offered worthier tributes to the personality of Dr. Buchan than are in my power to bestow, but before referring to the special department in which I have been trying to follow in his footsteps I may perhaps be allowed to say a word of a personal nature also.

I first came into touch with Dr. Buchan in 1883, when, busy as he was in organising the Observatory on Ben Nevis, he found time to take a strong interest in starting the Scottish Marine Station at Granton, and I can never forget the kindly care with which he instructed me in the art of meteorological observing, or his unerring instinct in pouncing upon errors in the monthly returns. From that time I was a very frequent visitor at the rooms of the Society, and Dr. Buchan was never too busy to receive me, nor did he ever fail in helping or advising with a cordial interest that can never be forgotten. Since leaving Edinburgh I saw a good deal of Dr. Buchan in his frequent visits to London, and, as my work drew more and more into parallelism with his own, I was able even more fully than before to appreciate his happy knack in marshalling figures, and his unfailing willingness to impart information from his vast store of special knowledge.

From Dr. Buchan I learned the utility of maps in discussing meteorological phenomena, and his conversation first showed me the determining influence of the forms of the land in the distribution of rainfall and temperature. To some extent the methods inculcated by Dr. Buchan were complementary to those arrived at by my distinguished predecessor, Mr. G. J. Symons, in his work, with a far larger, if sometimes less chosen, mass of rainfall statistics; and in my own work I feel that I owe an equal debt to both. Except Mr. Symons, no one has done so much for the study of rainfall in this country as Dr. Buchan, and it was fitting that he should be the first to receive the gold Symons Memorial Medal of the Royal Meteorological Society.

Dr. Buchan's special work on rainfall commenced very soon after his appointment as Meteorological Secretary, his first paper on the subject being "On the Rainfall of Scotland from 1857 to 1862," which appeared in the last number of the first series of the *Journal*. This was a very important paper, and calls attention, with singular ability and insight, to many points of distribution which are not yet fully worked out. It was followed by a series of three elaborate articles dealing with the "Weekly Extreme Temperature and Amount of Rainfall in Scotland, on an Average of Seven Years from 1857 to 1863," which appear in the first volume of the new series of the *Journal*. The object of this discussion was to elucidate the bearing of rainfall and temperature on agriculture, and the selection of the week as the unit of time in the discussion is interesting, as the same unit was afterwards chosen for the same purpose in the *Weekly Weather Report* of the Meteorological Office. Between 1870 and 1873 Dr. Buchan prepared a comprehensive paper, appearing in five numbers of the *Journal*, on the "Rainfall of Scotland for the period 1857 to 1869." This dealt with individual river basins, and although the data were too incomplete for cartographical treatment, and the discussion was necessarily of a tentative character, some important relationships were demonstrated for the first time.

In 1874 he proposed, from theoretical considerations, the employment of a rain-gauge protected from wind eddies by a wire screen, but we have not found any record of experiments with this apparatus. Dr. Buchan was alive to the serious imperfections of the Fleming rain-gauge, at one time much used in Scotland, though strongly condemned by Mr. Burgess, an earlier Secretary of the Society. By insisting on the rod attached to the float being tied down, Dr. Buchan reduced the probability of error from the use of this gauge.

The lapse of time, and the gradual increase of rainfall stations in connection with the Society, allowed of a great accumulation of data, which Dr. Buchan discussed on various occasions, with all the weight of his mature experience. The third paper of his important series of discussions of the Climate of the British Islands was devoted to rainfall. This was published in 1885, and made use of data for the twenty-four years 1860–83, mainly derived from the volumes of *British Rainfall.* On this occasion the means of stations with less than twenty-four years' records were utilised by computing the values for the whole period, and the results were sufficiently consistent to permit of the drawing of an isohyetal map of the British Isles on a small scale. This map, drawn from 1846 points, was the first of its kind on which full reliance could be placed. The only predecessor, so far as I am aware, was Mr. Symons's map, based on the five years 1861–65, prepared for the Duke of Richmond's Commission on Water Supply. Ten years later a more detailed study of the rainfall of Scotland was published, as the result of the discussion of the records for the twenty-five years 1866–90. For this purpose 130 complete records were available, and it was found possible to compute averages representing the same period for 194 additional stations, so that the maps accompanying the paper were constructed from 324 points. These maps were drawn for each month as well as for the whole year, and they are thus of very great value, and not likely soon to be superseded.

Rainfall maps were also prepared in manuscript of all the years from 1800, the figures being given as departures from the average at each station. I have not myself seen these maps, which are still unpublished, but the figures on which they are based were published in 1900, together with an account of the fluctuations of rainfall from year to year, under the title of "The Annual Rainfall of Scotland from 1800 to 1898."

Once more the question of Scottish rainfall presented itself to Dr. Buchan's mind in a new form. Hitherto he had been content with recording facts and seeking relationships between meteorological and geographical or economic conditions, but in his last paper, only published in 1903, he sought more far-reaching conclusions touching "The Rainfall of Scotland in relation to Sunspots." The investigation was one of great difficulty, and it may be that both methods and results will have to be passed in review before the conclusions foreshadowed can be accepted as final; but it certainly appears, from the maps published in the paper, that on the average of several sunspot cycles there is a close coincidence of wet years with the years immediately following the maximum number of sunspots.

Dr. Buchan always laid stress on the necessity of having very numerous stations for rainfall observations, and of securing records extending over many years; and no one knew better than he that finality in constructing a rainfall map, even of Scotland, was still far off. He has laid the foundation, and it is for the Society to see that his example is followed.

There is nothing more impressive as an indication of the tremendous power of work which Dr. Buchan wielded than the fact that the memoirs to which I have referred are only a fraction of those which enshrined his meteorological labours.

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2.

THUNDERSTORMS AT THE BEN NEVIS OBSERVATORIES AND ON THE SCOTTISH COASTS.

By HERBERT BELL, M.A., B.Sc.

DURING the last two years the late Dr. Alexander Buchan was largely occupied in the discussion of the Ben Nevis observations, and in aid of this work he received grants from the Carnegie Trust. As part of the general discussion he investigated the occurrence of thunderstorms in Scotland as observed not only at the Ben Nevis and Fort William Observatories, but also at the Scottish Lighthouses. The keepers of the lighthouses take note of the weather conditions continuously both by day and night, and, by the courtesy of the Commissioners of Northern Lights, their records are sent to the Scottish Meteorological Society. I assisted Dr. Buchan in this part of the work, and since his death have completed the computations connected with it.

The cases of occurrence of thunder and lightning at the Ben Nevis Observatory and at Fort William during the time the High-level Observatory was in operation, that is from 1st November 1883 to 30th September 1904, are given in Tables I. to VII. of the Appendix. The following description of these tables is extracted from notes made by Dr. Buchan:—

THE BEN NEVIS OBSERVATORY.

(4407 feet above sea-level.)

At this Observatory there were observed during the twenty-one years—

58 cases of occurrence of thunderstorms, *i.e.* thunder with lightning;
49 cases of thunder without lightning;
82 cases of lightning without thunder;
206 cases of St. Elmo's Fire,—

thus giving a total of 395 cases of occurrence of electrical displays at the top of Ben Nevis.

In the present state of our knowledge regarding electrical phenomena, it has been thought advisable to carry out in this report the distinction between thunder with lightning and thunder without lightning.

1. *Thunderstorm (Thunder with Lightning), Table I.*

The 58 cases of occurrence have been arranged in Table I., to show respectively the numbers for each month and for each of the twenty-four hours of the day.

It thus appears that during the first four months of the year only 4 cases occurred, and during the last three months 12 cases; but for the five months from May to September there were 42 cases, the two months of greatest excess being June, with 11 occurrences, and July, with 12. As regards the hours of the day, the chief maximum was for the seven hours from noon to 6 P.M., whilst a secondary maximum was indicated from 10 P.M. to 2 A.M.

2. *Thunder without Lightning, Table II.*

This Table shows that for the twenty-one years there were reported 49 cases, when, though thunder was heard, no lightning was observed. It is remarkable that nearly all the cases are recorded in the portion of the year from the spring to the autumnal equinox, when the number of occurrences was 41 out of the 49, this leaving only 8 for the other half of the year.

It is to be particularly noted that the periods of minimum occurrence comprehended the darkest portions of the year when the electrical light would be most readily seen, and the maximum occurrence during those months and hours of the day when the sun is above the horizon, thus rendering the occurrence of lightning less noticeable.

3. *Lightning without Thunder, Table III.*

From this Table it appears that on the top of Ben Nevis sheet-lightning is a phenomenon chiefly of the night and of the colder months of the year. Cases are all but wanting from 8 A.M. to 4 P.M., and in general during those months of the year and hours of the day when the effect of the sun is greatest.

The complete difference between the hours of greatest frequency of occurrence in the cases of thunderstorms and the cases of lightning without thunder, proves that the cases of lightning alone cannot possibly be a simple reflection from a neighbouring thunderstorm.

4. *St. Elmo's Fire, Table IV.*

During 1884, when the Ben Nevis observations began, systematic observations of St. Elmo's Fire were not made. But in the course of the year so many observations were noted by the members of the staff that Mr. Omond, in the beginning of 1885, commenced a regular series of observations of St. Elmo's Fire as part of the hourly observations, and these were continued till the closing of the Observatory on 1st October 1904.

From these observations Table IV. has been constructed similarly to Tables I., II., and III., thus showing the distribution of the cases of occurrence of St. Elmo's Fire for the months of the year and the hours of the day. The outstanding feature of the Table is the very large number of cases of occurrence as compared with cases of thunder with lightning, of thunder without lightning, and of lightning without thunder. The total number for these three classes is 189, whereas the cases of St. Elmo's Fire alone number 206, that is 17 in excess of the three other classes combined.

As regards the months, a maximum occurs from the autumn to the spring equinox, the number of cases from October to March being 129, while from the spring to the autumn equinox, the number of cases is only 77; July, however, is an exceptional month, having 22 cases.

The frequent occurrence of thunderstorms in the south-eastern section of a cyclone has been recognised for some time in framing weather forecasts for North-western Europe, and the same relation is repeatedly shown on comparing the observations of St. Elmo's Fire at Ben Nevis with the weather at the time.

THE FORT WILLIAM OBSERVATORY.

(42 feet above sea-level.)

At Fort William there were observed during the 21 years—

62 cases of thunderstorms, *i.e.* thunder with lightning;
70 cases of thunder without lightning;
79 cases of lightning without thunder.

As there was no regular night watch kept at this Observatory, the records for some six hours after midnight are necessarily incomplete as compared with the observations at the other hours of the day.

1. *Thunderstorms (Thunder with Lightning), Table V.*

The cases of occurrence of thunderstorms at Fort William amounted to 62, being four more than the number observed at the Ben Nevis Observatory. The distribution during the months of the year and the hours of the day at the two Observatories were closely consequent, the chief points of difference being a less pronounced maximum in the summer months at Fort William, and a less pronounced minimum in the first four months of the year. As regards the hourly period, the maximum, as at Ben Nevis, was during the afternoon hours.

2. *Thunder without Lightning, Table VI.*

The number of cases of thunder not accompanied with lightning at Fort William was 70, whereas the number noted at the Ben Nevis Observatory was 49, the number being thus considerably greater at Fort William. The excess at Fort William was chiefly occasioned by 12 occurring there in January, whilst in the same month none were recorded at the Ben Nevis Observatory; and 17 occurring in May at Fort William, as against 4 at the top of the Ben. Leaving out of account January, the two Observatories show occurrence of their maxima in the months of the year and the hours of the day when the temperature is highest, and their minima during the months and hours when temperature is lowest.

3. *Lightning without Thunder, Table VII.*

The number of cases of lightning without thunder at Fort William was 79, as against 82 at the top of Ben Nevis. Of these 79 cases, 11 occurred from Midnight to 9 A.M., none from 10 A.M. to 4 P.M., but 68 from 5 P.M. to

11 P.M. For the half-year from April to September, there were recorded 14 cases, but for the other six months, from October to March, 65 cases.

Thus at Fort William this phase of the thunderstorm is virtually restricted in its occurrence to the six winter months, and to the period of the day from 5 P.M. to 11 P.M. At the top of Ben Nevis, however, the maximum period of cases of lightning without thunder extends from 6 P.M. to 7 A.M., but the latter part of this part is from midnight to 7 A.M.; when, as stated above, there were few opportunities of observing at Fort William.

GENERAL CONSIDERATIONS.

The foregoing notes by Dr. Buchan show clearly the times of occurrence of electrical phenomena at Ben Nevis and Fort William, but the atmospheric conditions that determine such occurrences are of a very complex nature, and are not fully understood. One important factor may, however, be briefly considered here.

The air, as is well known, has an electrical charge which is generally positive relatively to that of the earth, the difference of potential increasing with height. The upper air is thus at a different potential from the ground at the earth's surface. The rarer air of the upper regions of the atmosphere and the earth itself are each a fairly good conductor, but the lower and denser air is a much worse conductor, and insulates the two charges. Our globe and its envelope thus virtually form a huge condenser, which may be, and frequently is, highly charged, but if by any means any portion of the lower air becomes a sufficiently good conductor a union of the positive charge of the higher regions with the earth's negative charge may take place. If this action meets with, and overcomes, sufficient resistance at any part of its path, the air particles become heated and luminous, giving lightning, while the accompanying sudden expansion and contraction of the air is heard as thunder. Clearly then, thunder and lightning are the accompaniments of some unusual vertical arrangement of the atmosphere in which the lower air becomes an imperfect conductor instead of being, as usual, an almost perfect non-conductor. Such a condition may be supplied by a local upward convection current of warm moist air, which, as has often been pointed out, is a better conductor than ordinary air. In this connection Prof. Tait remarks,* "We can easily see (from these considerations) how it is that animals are often killed in great numbers by a single discharge, as they crowd together in a storm, and a column of warm air rises from the group."

This convection in the lower part of the atmosphere may be brought about in either of two ways—

A. We may have the ordinary convection current of a summer afternoon, of which the common cumulus cloud is an index. A clear atmosphere admits the sun's direct rays to the surface of the ground, and the heated land surface warms the superimposing air, which therefore, absorbing moisture when it is to be had, expands and ascends.

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* "Thunderstorms": A lecture delivered to the Glasgow Science Lectures Association, 29th January 1880.

B. The upper air may be excessively cooled, and therefore, becoming denser, sink and displace lower air.

The relative importance of *A* and of *B* will be considered later.

THE SCOTTISH LIGHTHOUSES.

The Ben Nevis Observatory was in operation for a period of nearly twenty-one years, and during that period fifty-nine lighthouses on the coasts of Scotland sent complete meteorological returns to the Scottish Meteorological Society. These returns have been examined for references to electrical manifestations, and note taken of the year, month, and time of day of their occurrence, or of their commencement in the case of a prolonged storm; also as to whether the phenomenon was one of thunder with lightning, thunder unaccompanied by lightning, or lightning unaccompanied by thunder.

In the first place it was considered of interest to search for any possible periodicity in the total number of thunderstorms—that is, occurrences of thunder with lightning—from year to year, by tabulating these and smoothing the values to eliminate chance variations.

In Table VIII. is given the average number of thunderstorms per year per station for Denmark, Norway, and Sweden, for the period 1872–1904, taken from a paper by Steen in the *Hann-Band* (1906). The figures for Scotland are the average number per lighthouse per year from 1884 to 1904. The corresponding sunspot numbers of the Table are those given by A. Wolfer.

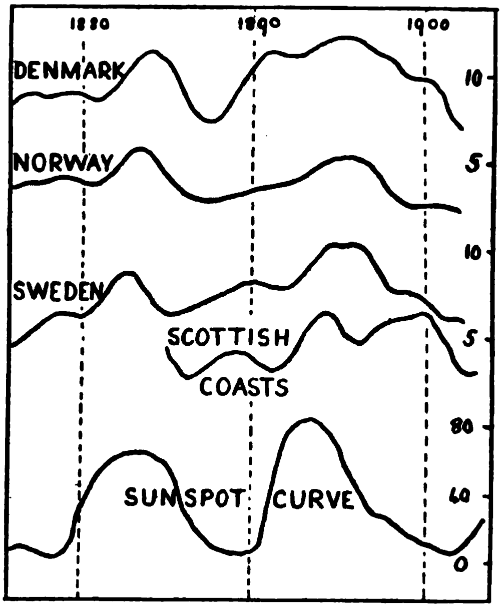

FIG. 1.—Thunderstorms and Sunspot Frequency.

All except the sunspot numbers are smoothed in groups of three (a, b, c), using the formula $b=(a+2b+c)/4$. It is surprising how small the average number of thunderstorms for Scotland here indicated is as compared with that for the other countries, but thunderstorms are much less frequent at sea stations than inland, and these numbers for Scotland are taken for lighthouses only, and do not, like those for the other countries, include returns from inland stations.

The data contained in Table VIII. numbers are represented in Fig. 1, but the values for Scotland are increased five times, so as to bring out the salient features of the graph; this of course does not affect any possible periodicity. It will be noticed that there is a resemblance in these curves to the eleven-year sunspot period, but we should need observations for several periods to prove any such connection.

Taking the stations about our coasts in *groups*, we get the following Table for thunderstorms:—

AVERAGE NUMBER OF THUNDERSTORMS PER STATION OVER DIFFERENT PARTS OF THE COASTS OF SCOTLAND.

	No. of Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
East Coast . .	13	0·2	...	0·1	0·1	1·0	5·0	5·5	4·6	1·1	0·4	...	0·4	18·4
Orkney & Shetland	13	1·4	0·5	0·1	0·2	1·3	2·4	1·6	3·0	0·8	0·5	1·0	0·9	13·7
Hebrides . .	10	2·0	1·4	0·8	0·5	1·7	1·6	2·6	2·6	1·0	0·8	0·9	1·3	17·2
Inner West Coast	12	4·2	2·0	1·1	1·2	1·8	3·1	4·3	3·8	1·2	1·8	2·3	2·3	29·1
South West Coast	11	0·7	0·8	0·3	1·8	2·1	3·1	4·7	4·4	1·4	1·4	1·2	2·5	24·4
ALL STATIONS	59	1·6	0·9	0 5	0·7	1·5	3·1	3·7	3·7	1·1	0·9	1·1	1·4	20·2

Considerable differences in seasonal distribution are at once apparent. In each group we have a summer maximum, but the east coast has practically no winter one, and the winter values on the south-west coast are very much smaller than those for the northern and western groups. It is chiefly this enhanced winter activity that gives the western districts a greater average than the other groups. These differences are readily explained by reference to the different methods of convectional movements described above under *A* and *B* (page 122).

A applies for summer to any extensive and comparatively level surface, especially if the station is on the eastern or northern side of such an area. For, since the majority of clouds drift eastward, they carry over the station in such cases a set of convection currents which originated over the heated area to windward. The stations that fulfil this condition obviously are those along our east coast, and those on the eastern sides of the islands on the north and west coasts.

B acts throughout the year, but has a maximum effect in winter, as will be gathered from the following quotation from a paper by Prof. Bigelow in the *Monthly Weather Review*, August 1906. He is discussing the conditions accompanying a waterspout in the New England States, and explains the convection set up as due to excessive cooling of the upper atmosphere:—

> "We have merely to assume, in accordance with the general fact, that the upper strata are moving eastward in advance of the lower, and that this cold air from the high area was blown forward earlier in the strata, a mile or two high, than at the surface. A sheet of cold air overran the lower warm . . . strata, while the cold air followed at the surface a few hours

later, and in these facts we have the exact conditions required to produce the observed powerful convection. Such abnormal cooling of the higher strata is as efficient in producing vertical convectional gradients as a super-heating of the surface would be." Later, in connection with the same phenomenon, he says:—"This local disturbance of the average gradients, due to the fact that the cold upper air under certain configurations of the lower currents is drifted forward upon them, is the *primary cause of most of the phenomena classified as thunderstorms, tornadoes, cyclones, and hurricanes.* In short, all those violent local disturbances of the lower air are largely due to this cause, and this is the true source of the energy expended, though it has been attributed by one school of meteorologists to the latent heat of condensation, and by the other school to the eddies established by differential horizontal velocities. These two latter sources of energy need not be excluded from consideration, for they contribute their quota to the total energy of circulation, but the first cause is the abnormal stratification of the air at moderate elevations. Thus the groups of thunderstorms which frequent the south-eastern quadrants of the cyclone are due to the overflowing of the cold northern current upon the warm current from the south."

The statement in the above quotation that thunderstorms occur most frequently in the south-east quadrant of a cyclone has, of course, often been emphasised.*

Fig. 2 illustrates the variation of wind direction with height for different parts of a cyclone. It is taken from an article by Abercromby on "Modern Developments of Cloud Knowledge," in Vol. VIII. of the Society's *Journal.*

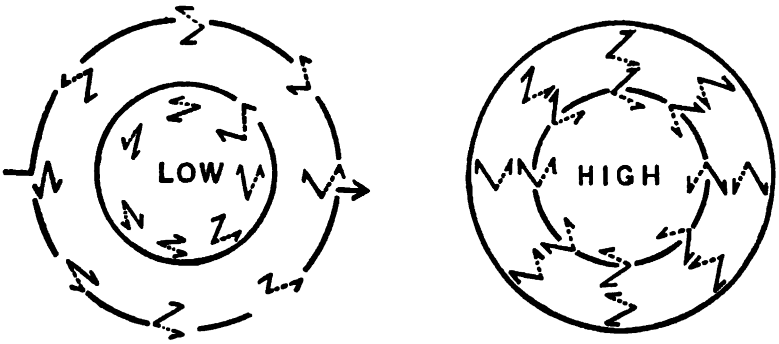

FIG. 2.—Surface and Highest Winds round a Cyclone and an Anti-cyclone. (*Abercromby.*)

The heavy arrows indicate the direction of the lower winds, the dotted ones that of the highest cirrus clouds, and plainly in the south and south-eastern parts of the cyclone there is the greatest probability of a large decrease of temperature with height, for there the cooler north-west wind overruns the warmer south-west one. It may be remarked, however, that for Scotland this position in the low-pressure area is probably more southerly than south-easterly, as may be illustrated by a remark of Mr. Omond's in his discussion of the cyclonic winds on Ben Nevis.† "When a cyclonic centre is lying anywhere north or east of Ben Nevis, and an anti-cyclone or high-pressure area somewhere in the opposite direction, the wind often, indeed almost invariably for a certain time, blows out from the cyclone (at this altitude) and towards the anti-cyclone," while of course the lower winds are westerly.

---

* *E.g.* Davis' *Elementary Meteorology*, p. 257.

† *Journal*, vol. viii. p. 22.

Fig. 3 shows (A) the total number of thunderstorms per month for all the Scottish Lighthouses (59 stations); (B) the same for the east coast from St. Abbs to Nosshead (13 stations); and (C) for 17 stations, either out at sea or having adjacent land only to the north-east, so as not to be influenced by convection *A* of page 122, *e.g.* Dhuheartach or Barrahead. These curves show plainly that the winter maximum of curve A comes from stations of this latter class. Thus the great number of winter cyclones gives a winter maximum of thunderstorm frequency on the west coast almost equal to the summer one, for these western stations are then close to, and to the south-east or south of, the cyclone centres, which have a well-beaten track north-eastwards outside the Hebrides.

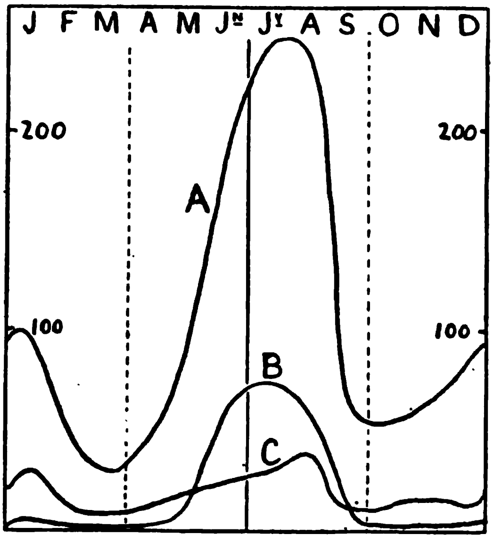

FIG. 3.—Seasonal Range of Thunderstorms for different Districts.

A.—All Lighthouses.
B.—East Coast Lighthouses.
C.—Lighthouses with SW Exposure.

The data from all the lighthouses for the twenty-one years was next sifted with regard to whether the thunder occurred with lightning, without lightning, or whether lightning occurred alone. The result is shown in Table IX., which gives the total number for each month of the year, and represented graphically in Fig. 4.

It will be noticed that the maximum for thunder only slightly precedes that for thunder with lightning, while lightning only has its maximum closely agreeing with the secondary or winter one of thunder with lightning.

In Tables IX. and X. the values for the Scottish lighthouses are compared with the corresponding results for Ben Nevis Observatory. Table IX. gives the total numbers for each month for the twenty-one years at the lighthouses and at Ben Nevis. The Table shows a much smaller number of occurrences for Ben Nevis, being those for one station only.

They are, however, much larger than those for any one lighthouse. Indeed the average number of thunderstorms for each lighthouse is only 20, while for Ben Nevis we have 58. The seasonal range for Ben Nevis, as shown in Table IX., differs in some respects from that for the lighthouses. There is on Ben Nevis a slightly earlier summer maximum for thunder with lightning, and a smaller proportionate winter one, while there is a much greater proportionate amount of thunder alone and lightning alone.

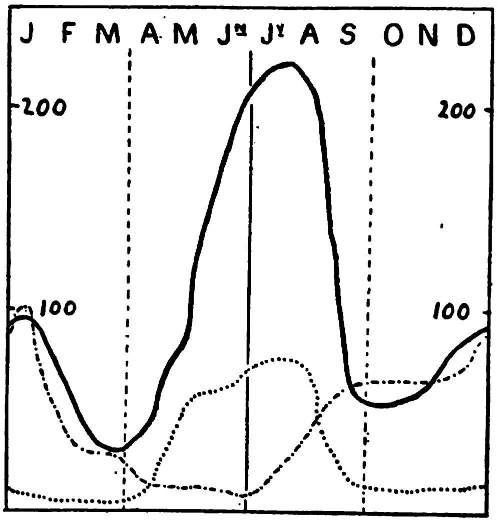

FIG. 4.—Seasonal Range for Scottish Coasts.
Thunder with Lightning ————
Thunder without Lightning..................
Lightning without Thunder·—·—·—·—·—

The diurnal range for the lighthouses is shown in Fig. 5, drawn from the numbers in Table X., smoothed in groups of three, and the diurnal range for Ben Nevis in Fig. 6. The most noticeable difference between the two

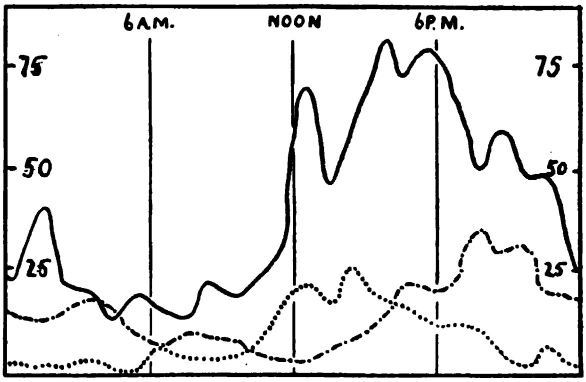

FIG. 5.—Diurnal Range for Scottish Coasts.
Thunder with Lightning ————
Thunder without Lightning......................
Lightning without Thunder ·—·—·—·—·—·—

diagrams is the lateness of the maximum for lightning only on Ben Nevis. Dr. Buchan, in his "Report on Atmospheric Circulation" for the *Challenger* Expedition, draws attention to the fact "that over the open sea thunderstorms are essentially phenomena of the night," and gives a table showing that over 60 per cent. of the thunderstorms at sea were observed between midnight and 6 A.M.

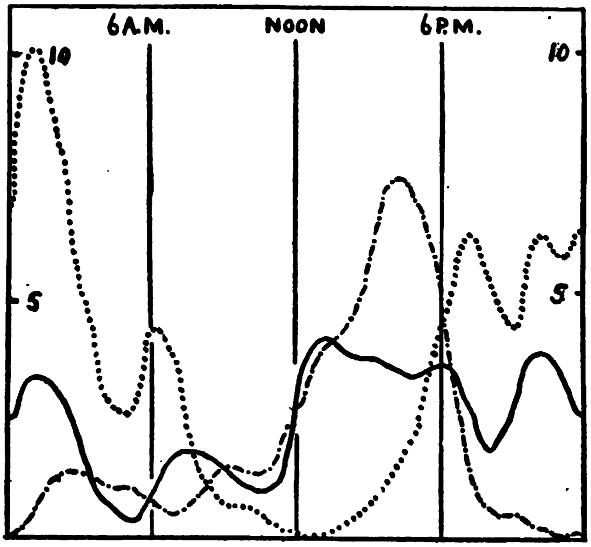

Fig. 6.—Diurnal Range on Ben Nevis.
Thunder with Lightning ————————
Thunder without Lightning -·-·-·-·-·-·-
Lightning without Thunder ....

This is a good example of the difference between conditions on Ben Nevis and at low-level surrounding stations. The greater amount of convectional action takes place below this level—4407 feet,—and what does reach this altitude is, of course, much delayed. Over sea air, also, there is a lack of ascending currents, since the sea itself keeps a nearly uniform temperature throughout the twenty-four hours, and any disturbance of the atmosphere that does take place is through radiation after sunset to the cooled upper air. Hence both at sea and on Ben Nevis we have a later time for vertical currents, and therefore a later time for lightning.

It may be pointed out that the curves in Fig. 5 bear a strong resemblance to those of Fig. 4, as was to be expected. The time-range for each figure covers a gradual change from a cold period through a warmer one, and back again to cold. In the diurnal curve the maximum for thunder with lightning lies between that for thunder alone and that for lightning alone. Lightning is, however, not a midnight, as it was a midwinter, phenomenon. At the Scottish Lighthouses it occurs mostly in the late evening, no doubt, because it can be seen farther away at that time than in the day time, and since thunder with lightning is diminishing, it must diminish also towards midnight. The curve for thunder alone reaches its maximum in the early afternoon, and has begun to fall before the maximum period for thunder with lightning is attained,

APPENDIX.

TABLE I.

Cases of Occurrence of Thunderstorms at Ben Nevis Observatory, 4407 feet above Sea-level. 1884–1904.

Hour.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1 A.M. .	...	...	...	...	...	1	1	1	...	...	...	...	3
2 „ .	...	1	...	...	...	1	1	...	...	...	1	...	4
3 „ .	...	...	...	...	...	...	...	...	1	...	...	...	1
4 „ .	...	...	...	...	...	...	...	...	...	...	...	1	1
5 „ .	...	...	...	...	...	...	...	...	...	...	...	...	...
6 „ .	...	...	...	...	...	...	...	...	...	...	...	...	...
7 „ .	...	1	...	...	...	2	...	...	...	...	...	...	3
8 „ .	...	...	...	...	...	...	...	...	...	...	...	1	1
9 „ .	...	...	...	...	...	...	...	...	...	1	...	1	2
10 „ .	...	...	...	...	...	...	...	...	...	...	1	...	1
11 „ .	...	...	...	...	...	...	...	...	...	...	...	...	...
Noon .	...	...	...	...	...	...	...	2	...	...	...	1	3
1 P.M. .	...	...	...	...	2	...	2	1	...	...	...	...	5
2 „ .	...	...	...	...	1	...	1	...	...	...	...	1	3
3 „ .	...	...	...	...	2	2	...	...	...	...	...	...	4
4 „ .	...	...	...	...	1	2	...	1	...	...	...	...	4
5 „ .	...	...	...	...	...	...	2	...	...	...	...	...	2
6 „ .	...	...	...	1	1	1	...	...	1	1	...	...	5
7 „ .	...	...	...	...	...	1	...	...	1	...	...	...	2
8 „ .	...	...	...	...	...	...	...	1	1	...	...	...	2
9 „ .	...	...	...	...	...	...	...	...	...	1	...	...	1
10 „ .	...	...	...	...	...	...	4	1	1	...	...	...	6
11 „ .	...	1	...	...	...	...	1	...	...	...	...	...	2
Midnight .	...	...	...	...	...	1	...	...	...	...	2	...	3
Sum . .	...	3	...	1	7	11	12	7	5	3	4	5	58

TABLE II.

Cases of Occurrence of Thunder without Lightning at Ben Nevis Observatory. 1884–1904.

Hour.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1 A.M. .	...	...	...	...	...	...	...	...	...	...	...	...	...
2 „ .	...	...	...	...	...	1	...	...	...	...	1	...	2
3 „ .	...	...	...	...	...	...	...	...	1	...	...	...	1
4 „ .	...	1	...	...	...	...	...	...	...	...	...	...	1
5 „ .	...	...	...	...	...	...	...	...	1	...	...	...	1
6 „ .	...	...	...	...	...	...	...	...	...	...	...	1	1
7 „ .	...	...	...	...	...	...	...	...	...	...	...	...	...
8 „ .	...	...	...	...	...	...	1	...	...	...	...	...	1
9 „ .	...	...	1	...	...	...	1	...	...	...	...	...	2
10 „ .	...	...	...	...	...	...	...	...	...	...	...	1	1
11 „ .	...	...	...	...	1	...	...	...	...	...	...	...	1
Noon .	...	...	...	...	1	2	...	...	...	...	...	...	3
1 P.M. .	...	...	...	...	...	1	3	...	...	...	...	...	4
2 „ .	...	...	...	...	...	...	1	...	1	1	1	...	4
3 „ .	...	...	...	...	1	2	2	...	...	...	...	...	5
4 „ .	...	...	...	1	1	2	1	2	1	...	1	...	9
5 „ .	...	...	...	1	...	1	2	2	1	...	...	...	7
6 „ .	...	...	...	3	...	...	...	...	1	...	...	...	4
7 „ .	...	...	...	...	...	1	...	...	...	...	...	...	1
8 „ .	...	...	...	...	...	...	...	...	...	...	...	...	...
9 „ .	..	...	...	...	...	...	...	1	...	...	...	...	1
10 „ .	...	...	...	...	...	...	...	...	...	...	..	...	...
11 „ .	...	...	...	...	...	...	...	...	...	...	...	...	...
Midnight .	...	...	...	...	...	...	...	...	...	...	...	...	...
Sum . .	...	1	1	5	4	10	11	5	6	1	3	2	49

TABLE III.

Cases of Occurrence of Lightning without Thunder at Ben Nevis Observatory. 1884–1904.

Hour.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1 A.M. .	1	1	...	...	2	1	3	3	2	1	1	1	16
2 " .	1	1	2	...	...	...	...	...	1	...	...	...	5
3 " .	1	...	...	1	...	...	...	...	1	...	...	3	6
4 " .	...	1	1	...	...	...	...	...	...	...	...	...	2
5 " .	...	...	...	...	...	...	...	1	...	...	...	...	1
6 " .	3	1	...	...	...	...	...	...	...	...	1	1	6
7 " .	2	1	...	...	...	...	...	...	...	...	...	1	4
8 " .	...	...	...	...	...	...	...	...	...	...	...	...	...
9 " .	...	1	...	...	...	...	...	...	...	...	...	...	1
10 " .	...	...	1	...	...	...	...	...	...	...	...	...	1
11 " .	...	...	...	...	...	...	...	...	...	...	...	...	...
Noon .	...	...	...	...	...	...	...	...	...	...	...	...	...
1 P.M. .	...	...	...	...	...	...	...	...	...	...	...	...	...
2 " .	...	...	...	...	...	...	...	...	...	...	...	...	...
3 " .	...	...	...	...	1	...	...	...	...	...	...	...	1
4 " .	1	...	...	...	...	...	...	...	...	...	...	...	1
5 " .	...	...	...	...	...	...	...	2	...	...	...	...	2
6 " .	1	...	...	...	...	...	...	1	...	1	...	1	4
7 " .	1	1	...	...	...	...	...	...	...	3	1	1	7
8 " .	2	1	...	...	...	...	...	...	2	1	...	1	7
9 " .	...	...	...	...	...	...	...	...	...	...	...	...	...
10 " .	4	...	...	1	...	...	1	1	2	1	...	...	10
11 " .	2	1	...	...	...	...	...	1	1	...	...	...	5
Midnight .	...	1	...	...	...	...	1	1	...	...	...	...	3
Sum . .	19	10	4	2	3	1	5	10	9	7	3	9	82

TABLE IV.

Cases of Occurrence of St. Elmo's Fire at Ben Nevis Observatory. 1884–1904.

Hour.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1 A.M. .	2	2	4	1	2	1	3	1	1	4	2	2	25
2 " .	3	1	2	1	1	1	...	3	...	1	1	2	16
3 " .	...	...	...	1	1	...	...	...	3	1	...	1	7
4 " .	...	2	...	...	...	...	1	1	1	1	4	...	10
5 " .	...	2	...	...	...	...	1	...	1	3	5	...	12
6 " .	2	2	...	...	...	...	...	...	1	...	2	1	8
7 " .	1	1	...	1	...	...	...	...	...	...	1	1	5
8 " .	...	...	...	...	...	...	1	...	...	...	2	...	3
9 " .	...	1	...	...	...	...	...	...	1	...	...	1	3
10 " .	...	...	...	...	...	...	...	...	...	...	1	...	1
11 " .	...	...	...	...	...	...	...	...	...	...	...	...	...
Noon .	...	...	...	...	1	1	1	1	...	...	1	...	5
1 P.M. .	2	...	2	1	1	...	3	...	...	...	1	...	10
2 " .	...	...	...	1	1	...	1	...	...	...	1	1	5
3 " .	1	...	...	...	1	1	2	1	...	...	...	...	6
4 " .	1	...	...	...	...	...	2	1	...	...	1	...	5
5 " .	...	...	...	2	...	2	1	...	...	2	1	...	8
6 " .	2	...	1	...	1	...	...	...	...	1	...	1	6
7 " .	2	...	2	...	...	...	...	1	1	1	1	2	10
8 " .	3	1	1	...	1	...	1	...	...	1	...	1	9
9 " .	1	...	3	1	1	...	2	1	1	1	3	1	15
10 " .	2	3	1	...	...	...	1	1	1	2	1	1	13
11 " .	1	1	1	1	...	1	2	...	1	2	...	5	15
Midnight .	...	1	1	...	...	1	...	2	1	...	1	2	9
Sum. .	23	17	18	10	11	8	22	13	13	20	29	22	206

TABLE V.

Cases of Occurrence of Thunderstorms at Fort William Observatory, 42 feet above Sea-level. 1884–1904.

Hour.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1 A.M. .	...	...	...	...	...	...	1	...	...	...	...	...	1
2 ,, .	...	...	...	1	...	1	...	...	...	...	...	1	3
3 ,, .	...	...	...	...	...	...	...	1	...	...	...	...	1
4 ,, .	...	1	...	...	...	...	...	...	...	...	...	...	1
5 ,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
6 ,, .	...	...	...	...	...	...	...	...	...	...	...	1	1
7 ,, .	1	...	...	...	...	...	...	...	...	1	...	...	2
8 ,, .	1	...	...	...	...	...	...	...	...	...	1	...	2
9 ,, .	...	...	...	...	...	...	...	1	...	...	1	...	2
10 ,, .	...	...	...	...	...	...	...	...	...	...	...	1	1
11 ,, .	...	...	...	...	...	...	...	1	...	...	...	1	2
Noon .	...	...	...	...	...	1	...	...	...	...	...	...	1
1 P.M. .	...	...	...	...	2	...	...	...	...	...	...	...	2
2 ,, .	...	1	...	...	...	2	1	...	...	...	...	2	6
3 ,, .	1	...	...	...	2	1	1	...	...	...	...	...	5
4 ,, .	...	...	...	...	...	1	...	...	...	1	...	...	2
5 ,, .	...	...	...	1	1	1	...	1	...	...	...	...	4
6 ,, .	...	...	...	1	...	...	1	1	3	2	...	...	8
7 ,, .	...	...	...	...	...	1	...	...	1	1	...	...	3
8 ,, .	...	...	...	...	...	1	1	...	...	...	...	...	2
9 ,, .	...	1	...	...	...	1	...	1	...	...	1	...	4
10 ,, .	...	...	...	...	1	...	2	...	1	...	...	1	5
11 ,, .	...	1	...	...	...	...	1	...	...	...	...	...	2
Midnight .	...	...	...	...	...	...	1	...	...	...	1	...	2
Sum . .	3	4	...	3	6	10	9	6	5	5	4	7	62

TABLE VI.

Cases of Occurrence of Thunder without Lightning at Fort William Observatory. 1884–1904.

Hour.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1 A.M. .	...	...	...	...	...	...	...	...	...	...	...	...	...
2 ,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
3 ,, .	...	1	...	...	...	...	1	...	1	...	...	...	3
4 ,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
5 ,, .	...	...	...	...	...	1	...	...	...	...	1	...	2
6 ,, .	...	...	...	...	...	1	...	...	...	...	...	...	1
7 ,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
8 ,, .	1	...	...	...	...	...	...	...	...	...	1	...	2
9 ,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
10 ,, .	2	...	...	...	...	...	...	1	...	...	...	...	3
11 ,, .	...	...	...	...	1	...	...	...	...	...	...	...	1
Noon .	...	...	...	...	...	...	...	...	...	...	...	...	...
1 P.M. .	1	...	...	...	2	2	1	2	...	...	...	...	8
2 ,, .	2	2	...	...	...	1	1	...	...	...	...	...	6
3 ,, .	2	...	...	...	3	1	2	...	...	...	...	...	8
4 ,, .	1	...	...	1	7	2	...	1	2	...	1	...	15
5 ,, .	...	...	...	1	1	...	2	1	...	...	...	...	5
6 ,, .	1	...	...	...	...	...	1	1	...	1	...	...	4
7 ,, .	2	...	...	...	...	1	...	...	1	...	...	1	5
8 ,, .	...	1	...	...	...	...	1	...	1	...	...	...	3
9 ,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
10 ,, .	...	...	...	...	...	...	...	...	...	1	...	...	1
11 ,, .	...	...	...	...	2	...	...	...	...	...	...	...	2
Midnight .	...	...	...	...	1	...	...	...	...	...	...	...	1
Sum . .	12	4	...	2	17	9	9	6	5	2	3	1	70

TABLE VII.

Cases of Occurrence of Lightning without Thunder at Fort William Observatory. 1884–1904.

Hour.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1 A.M. .	...	...	...	...	...	...	1	...	...	...	1	...	2
2 ,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
3 ,, .	1	...	...	...	...	...	...	...	...	...	...	...	1
4 ,, .	...	1	...	...	...	...	...	...	...	...	...	...	1
5 ,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
6 ,, .	1	1	1	...	...	...	...	...	...	...	...	...	3
7 ,, .	1	...	...	...	...	...	...	...	...	...	...	...	1
8 ,, .	1	1	...	...	...	...	...	...	...	...	...	...	2
9 ,, .	...	...	...	...	...	...	...	...	...	...	...	1	1
10 ,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
11 ,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
Noon .	...	...	...	...	...	...	...	...	...	...	...	...	...
1 P.M. .	...	...	...	...	...	...	...	...	...	...	...	...	...
2 ,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
3 ,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
4 ,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
5 ,, .	3	...	...	1	...	...	...	...	...	...	...	...	4
6 ,, .	5	...	1	...	...	...	...	...	...	1	1	4	12
7 ,, .	4	...	1	...	...	...	...	...	1	...	...	4	10
8 ,, .	2	...	4	...	...	...	...	...	...	...	...	3	9
9 ,, .	3	1	2	1	...	...	...	1	...	2	...	...	10
10 ,, .	...	...	3	...	...	...	1	2	1	4	1	3	15
11 ,, .	...	1	2	...	1	...	2	1	1	...	...	...	8
Midnight .	...	...	...	...	...	...	...	...	...	...	...	...	...
Sum . .	21	5	14	2	1	...	4	4	3	7	3	15	79

TABLE VIII.

Average number of Thunderstorms per Station in each year in Denmark, Norway, Sweden, and Scotland.

Stations	Denmark. 8	Norway. 20	Sweden. 28	Scotland. 59	Sunspots.	Stations	Denmark. 8	Norway. 20	Sweden. 28	Scotland. 59	Sunspots.
1874	...	4·08	...	...	44·7	1889	8·69	3·10	8·09	0·90	6·3
1875	8 50	3·14	...	...	17·1	1890	10·85	3·59	8·12	0·81	7·1
1876	8·13	3·28	4·25	...	11·3	1891	11·35	3·68	7·67	0·61	35·6
1877	8·98	3·58	4·81	...	12·3	1892	11·23	3·62	7·46	0·71	73·0
1878	8·81	3·64	5·87	...	3 4	1893	11·25	4·43	9·05	1·15	84·9
1879	9·19	4·05	6·35	...	6·0	1894	12·13	5·22	10·32	1·34	78·0
1880	9·06	3·77	6·00	...	32·3	1895	12·41	5·45	10·24	1·10	64·0
1881	8·13	3·39	6·50	...	54·3	1896	12·31	5·27	10·61	0·97	41·8
1882	8·94	4·69	8·26	...	59·7	1897	11·73	4·15	9·18	1·14	26·2
1883	10·48	6·13	8·88	...	63·7	1898	10·98	2·88	7·45	1·17	26·7
1884	11·35	5·54	7·39	...	63·5	1899	9·94	2 48	7·71	1·25	12·1
1885	10·63	3·74	6·01	0·95	52·2	1900	10·10	2 69	7·19	1·34	9·5
1886	8·63	2·95	6 08	0·54	25·4	1901	8·23	2·67	5·89	0·98	2·7
1887	7·29	2·88	6·55	0·63	13·1	1902	6·63	2·53	5·87	0·61	4·7
1888	7·41	2·82	7·28	0·80	6·8	1903	...	2·45	...	0·64	25·3

TABLE IX.—SEASONAL RANGE.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
LIGHTHOUSES—													
Thunder with Lightning	98	54	28	43	91	183	221	219	63	55	62	85	1202
Thunder alone . .	7	5	3	10	58	63	75	70	16	11	11	12	341
Lightning alone . .	101	38	29	13	14	8	16	38	62	61	63	71	514
BEN NEVIS—													
Thunder with Lightning	...	3	...	1	7	11	12	7	5	3	4	5	58
Thunder alone . .	...	1	1	5	4	10	11	5	6	1	3	2	49
Lightning alone . .	19	10	4	2	3	1	5	10	9	7	3	9	82

TABLE X.—DIURNAL RANGE.

	1	2	3	4	5	6	7	8	9	10	11	12
LIGHTHOUSES—												
Thunder with Lightning . .	24	41	21	20	13	19	16	14	24	17	24	29
Thunder alone	2	1	2	3	...	...	6	4	4	4	7	17
Lightning alone . . .	15	14	16	18	15	9	5	10	7	7	5	4
BEN NEVIS—												
Thunder with Lightning . .	3	4	1	1	...	...	3	1	2	1	...	3
Thunder alone	...	2	1	1	1	1	...	1	2	1	1	3
Lightning alone . . .	16	5	6	2	1	6	4	...	1	1	...	...

	13	14	15	16	17	18	19	20	21	22	23	Md.
LIGHTHOUSES—												
Thunder with Lightning . .	68	45	56	81	72	79	71	49	59	48	49	26
Thunder alone	22	16	27	17	16	12	12	10	5	1	6	1
Lightning alone . . .	3	6	6	14	22	20	20	35	29	31	19	19
BEN NEVIS—												
Thunder with Lightning . .	5	3	4	4	2	5	2	2	1	6	2	3
Thunder alone	4	4	5	9	7	4	1	...	1	...	...	...
Lightning alone . . .	...	...	1	1	2	4	7	7	...	10	5	3

3.

THE DAILY WEATHER REPORT.

By R. G. K. Lempfert, M.A.,
Superintendent of Statistics, The Meteorological Office, London.

The completion of the submarine cable between Iceland and the Shetland Islands during the summer of 1906 inaugurated a new era in synoptic meteorology. Not that meteorological observations in Iceland and Faroe are by any means new. The volume of this *Journal* for the year 1869 contains a paper by Mr. A. O. Thorlacius, with remarks by Dr. Buchan, on observations taken by the former at Stykkisholm from 1845 onwards. In the introduction, Dr. Buchan mentions that the instruments in use had been compared with those sent out by the Board of Trade, through the Society. After 1866, monthly summaries of observations at Stykkisholm, Reykjavik, and Thorshavn, appeared regularly in the *Journal* for many years, and I believe I am correct in stating that these were the first regular observations to be published for the Iceland region.

In 1873 a number of stations of the second order were started by the Danish Meteorological Institute, and the results of these have been regularly published ever since. In the same year the joint issue of daily synoptic charts of the North Atlantic Ocean was commenced by the Danish Institute and the Deutsche Seewarte. The large size of these charts makes them scarcely suited to a private library, and they are in general only available to those who have access to the library of a meteorological society or institution. Moreover, from the nature of the case, a considerable interval necessarily elapses between the taking of the observations and the preparation and publication of the charts. The last volume issued is that for the year 1900. Thus the stimulus to research derived from the possibility of comparing recent weather, while it is still fresh in the memory, with the meteorological situation over the region to the north-west of our islands, has hitherto been wanting. Now, however, the Iceland cable has changed the situation, and in addition to the benefits which may be expected to accrue from it to the storm-warning and forecast services, and to the fishing industry in northern waters, it puts every subscriber to the Daily Weather Report in possession of information concerning the meteorological conditions prevailing in the Icelandic region, and enables him to attempt the fascinating study of trying to bring it into relation with the weather he is actually experiencing.

The vast importance to meteorology, both in its practical and in its purely scientific aspects, of establishing telegraphic communication between Iceland and Europe has long been recognised by those responsible for the organisation of international meteorological work, and as long ago as 1880 the Permanent

International Meteorological Committee, at the close of the discussion of a paper by Captain Hoffmeyer, gave expression to the general opinion in a resolution to the effect that—

"The Committee . . . fully agrees with Captain Hoffmeyer that the establishment of telegraphic communication with the Faroe Islands and Iceland, with Greenland and with the Azores, would be of the highest importance for the progress of the science of weather forecasting in Europe, and expresses its hopes for the realisation of the scheme."

Owing to financial difficulties the hopes were not realised for many a long year, and it took over a quarter of a century of patient work to reach the desired goal. The cable, which forms part of the system of the Great Northern Telegraph Company, was completed in September 1906, and as the arrangements for observing had been made by the Danish Meteorological Institute some time beforehand, meteorological messages began to come through almost immediately. While in Copenhagen last autumn the writer had the pleasure of being present when one of the first messages sent was taken off the wires. Delay again ensued in arranging the details connected with the international subscription for the daily messages, and it was not until January of this year that the data were available for publication. Communication with the Azores was established some years ago, and daily messages are regularly received from them. The extension of the Iceland cable to Greenland has not yet been carried out, but perhaps wireless telegraphy may bring Greenland into daily communication with Europe before many more years have elapsed.

The name of Professor Adam Paulsen, who succeeded Hoffmeyer as Director of the Danish Institute, will always be associated by meteorologists with the Iceland cable, as it was largely owing to him that the scheme was eventually carried through. By a curious irony of fate, his death, at the age of seventy-four years, occurred in January last, at the very time when his efforts in connection with the cable were crowned with success.

The extension of the area from which observations are available day by day has led to some important changes in the arrangement of the Daily Weather Report of the Meteorological Office. The first page contains, as heretofore, a transcript of the observations taken on the morning of the day of issue and on the previous evening, together with the extremes of temperature and the rainfall for the past twenty-four hours, and in some cases the duration of bright sunshine for the previous day. Data are included for twenty-eight stations in the British Isles, thirty-one on the continent of Europe, two in the Azores, one in Faroe, and three in Iceland.

The greater part of the second and third pages of the Report is filled by charts. Two maps of Western Europe and the adjoining part of the Atlantic Ocean, extending sufficiently far to the westward to include Iceland, are devoted to the pictorial representation of the meteorological situation at 8 A.M. on the day of the report. The scale is 1 inch to 5° of latitude, or 300 nautical miles. The first map shows the distribution of pressure by means of isobars for each 0·1 inch, and the direction and force of the winds by means of arrows. The positions of the centres of high and low barometer are marked by the words "high" and "low," and the regions in which the barometer is rising, steady, or falling, are indicated in a general manner. The second map is devoted to the representation of the distribution of temperature and weather at the time of observations, and the area within which precipitation has occurred during the past twenty-four hours is also shown on it.

Two subsidiary maps, on a smaller scale, show the distribution of pressure and wind at 6 P.M. and 8 A.M. on the previous day. For the second of these maps the area under observation is extended, so as to include the whole of Europe and the extreme north-west of Africa, by means of data taken from the daily report of the French Meteorological Office, which is received in London by post on the day after it is published. The scale of these maps is small, and the representation is necessarily somewhat rough, but it serves to show the main features of the meteorological situation. Observations from Eastern Europe are not available for the chart for 6 P.M., and advantage is taken of this to extend the pressure map for 8 A.M. sufficiently far to the westward to show the Azores in their correct position. The region between Iceland and the Azores, for which no observations are available, is occupied with an explanation of the symbols used in the maps.

The accompanying diagram* is a reproduction, on a reduced scale, of the pressure charts of the report for 20th February 1907. It shows the isobaric distribution in the storm which led to the wreck of the mail steamer *Berlin*, off the Hook of Holland, at about 6 A.M. on 21st February. The barometer reading, 27·65 inches, at Skudesnaes is among the lowest recorded in Europe since daily synoptic charts have been constructed, and the gradient over the North Atlantic is one of quite unusual steepness. To avoid confusion in the reproduction on the small scale, the isobars have been drawn for intervals of 0·2 inch, instead of the usual 0·1 inch. The violence of the storm caused an interruption of telegraphic communication with the Shetlands, and consequently also with Iceland, and the chart, as reproduced, has been completed since the issue of the report, by addition of the observations subsequently received.

The remainder of the two central pages is occupied by notes on the general situation at 8 A.M. and on the weather of the past twenty-four hours, and by forecasts for the twenty-four hours commencing at noon on the day of the report. Two additional maps show the distribution of average temperature for the hour of 8 A.M. for the corresponding time of the year, and the portions of the coast to which storm warnings have been issued.

The fourth page contains additional information concerning extremes of temperature, rainfall, and sunshine for a number of stations in the British Isles, chiefly health resorts, and also similar data for a selection of continental places, abstracted from the reports of the French and Swiss Offices, which are received by post.

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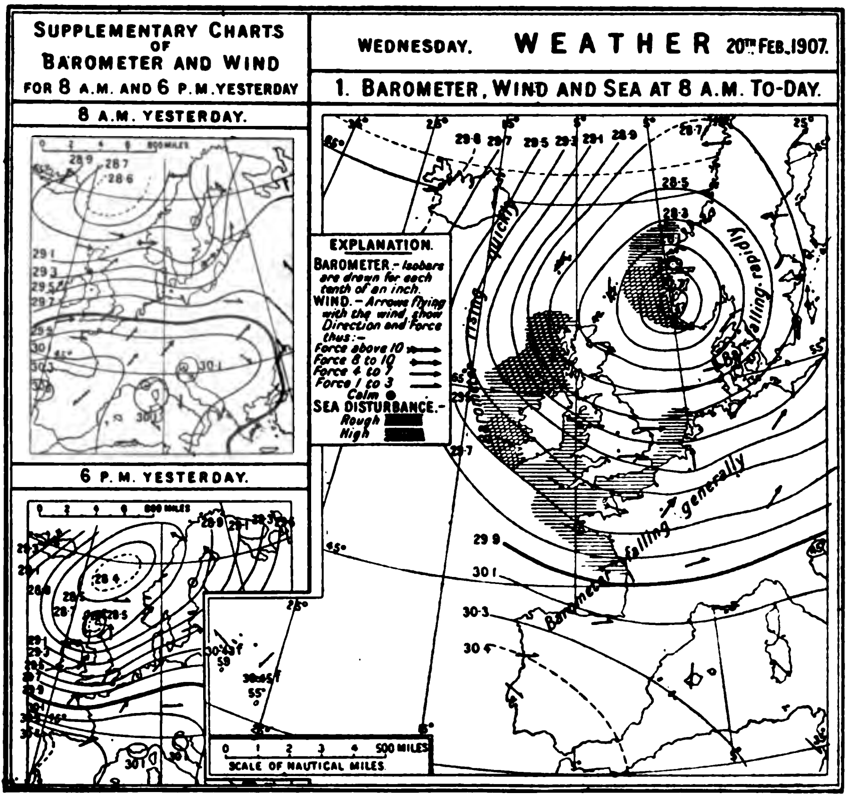
* Illustration kindly lent by the publishers of *Nature*. See an article in that journal for 21st March 1907 (vol. lxxv. pp. 488–490) on "The Weather Reports of the Meteorological Office."

The second means, which recent technical advances have brought within our reach, for extending to the westward the area from which observations are obtainable immediately, also finds a place in the report, though at present only a modest one. Space is provided on the last page for including information transmitted from ships of His Majesty's navy by wireless telegraphy by arrangement with the Admiralty. Hitherto only a few messages have been received, and these were from no great distances. During the first six months of the year fourteen reports contained information from ships at sea. Let us hope that we shall not have to wait another twenty-five years before arrangements are made for securing regular observations from ships of the mercantile marines of this and other countries.


SUPPLEMENTARY CHARTS OF BAROMETER AND WIND FOR 8 A.M. AND 6 P.M. YESTERDAY
8 A.M. YESTERDAY.
6 P.M. YESTERDAY.
WEDNESDAY. WEATHER 20TH FEB. 1907.
1. BAROMETER, WIND AND SEA AT 8 A.M. TO-DAY.
EXPLANATION.
BAROMETER.- Isobars are drawn for each tenth of an inch.
WIND.- Arrows flying with the wind show Direction and Force thus:-
Force above 10
Force 8 to 10
Force 4 to 7
Force 1 to 3
Calm ●
SEA DISTURBANCE.-
Rough
High
Barometer rising quickly
Barometer falling rapidly
Barometer falling generally
0 1 2 3 4 500 MILES
SCALE OF NAUTICAL MILES

Form of the new Daily Weather Report of the Meteorological Office.

The observations used in drawing the maps are taken at 8 A.M. G.M.T. at the British stations, and at about 7 A.M. on the Continent. This difference in the hour of observing is to be regretted, as it occasionally leads to distortions in the isobars which have no counterpart in fact, or again it may mask distortions actually existing. By 9.30 A.M. the bulk of the information has been received and charted at the Meteorological Office, and the preparation of the remarks and forecasts can be proceeded with. Advance copies of these are ready for distribution to the press between 10 and 11 A.M., in time to be included in the evening papers. The reports are manifolded by lithography.

For this purpose the charts and figures have to be transcribed on transfer paper in lithographic ink. This generally occupies until close on twelve o'clock, and the lithographers' share of the work is completed by about 2 P.M. The report can be purchased at 3 P.M. at the chief railway termini in London. The copies for subscribers residing within such a distance of London that they can be reached the same evening are despatched forthwith, those for subscribers outside this area are forwarded by the evening mails. They thus reach their destinations at the earliest twenty-four hours after the observations contained in them have been taken, so that the period covered by the forecasts has almost expired before they are delivered. Even so, a careful observer of barometer, wind and weather, may derive some assistance in the anticipation of the future from a knowledge of the conditions prevailing over a large area twenty-four hours previously, and the interest of the report does not centre entirely in the past. A system of issuing weather reports from a number of centres, such as has found much support in Germany in recent years, has not as yet been attempted in this country.

The messages from Iceland have had special interest this year in view of the unfavourable conditions which have prevailed during the past summer in our own area. Throughout the whole period, pressure was abnormally high over the Icelandic region, readings at sea-level being above 30·0 ins. on the vast majority of days, and considerably higher, on the average, than the readings in the north of the British Isles. A necessary consequence of such a pressure distribution is a prevailing flow of air, from between north and east, over the region between Iceland and Europe, and this fact, though hardly supplying a complete explanation of our unusually depressing weather, at any-rate carries us a step further in our search for one.

Simultaneously with the extension of the area included in the Daily Weather Reports of Western Europe, due to the completion of the Icelandic cable, an important advance was made in synoptic meteorology by the publication by the Survey Department of Egypt of a Daily Weather Report containing a map of the distribution of pressure over the Eastern Mediterranean and Egypt. The area included extends southward as far as 10° N latitude, and eastward as far as Suakin, approximately 37° east of the meridian of Greenwich.

The area for which daily charts of isobars at sea-level are promptly available is thus being steadily extended. At the present time, most European countries issue Daily Weather Reports containing maps in which the meteorological situation at home is represented in detail, and that of other European countries is shown more or less fully. The Russian report includes not only the whole of European Russia, but also a small portion of Asiatic Russia around the Caspian Sea. North Africa is dealt with in the Egyptian and Algerian reports. Since 1904 the Deutsche Seewarte has published daily maps of the distribution of pressure over the North Atlantic Ocean as a supplement to its Daily Weather Report. These charts, which appear about three weeks after date in instalments of ten days, form a connecting link between the maps of the European systems and those of the United States of America and Canada. Being based on only a small number of observations in proportion to the area dealt with, they do not take the place of the elaborate charts prepared jointly by the Seewarte and the Danish Institute, which have been referred to already, but they suffice to show the general features of the distribution of pressure.

The excellence of the organisation of meteorological observations in North America is well known, and the promptitude with which the Daily Weather Reports of that continent are issued is a matter for envy to the European meteorological services. The "circuit" system of telegraphy which is adopted for meteorological messages enables the data from all reporting stations to be received within about an hour of the time of observing (8 A.M., 75° W), not only at Washington and Toronto but also at a number of subsidiary centres, each of which issues a report. The area covered by the maps stretches from the northern limit of the Canadian telegraph system to the frontier of Mexico, and from the Atlantic to the Pacific. It even extends beyond the limits of the American mainland, for the Canadian Meteorological Office maintains a reporting station on Bermuda, and the United States Weather Bureau has found it necessary, in the interests of its forecasts for the Southern States, to establish a number of stations in the West Indies.

Turning to Asia, we have first to mention the map included in the report issued each day by the Meteorological Department of the Government on India. This map covers the whole of the Indian Empire, and on its eastern side takes in Burmah and the northern part of the Malay Peninsula. The tables appended contain observations from Aden and a few stations on the Persian Gulf and in Beluchistan, which help to link up the Indian with the Egyptian and Russian reports.

About 10° to the eastward of the Indian area, we find ourselves in the region dealt with by the China Weather Service, which has its headquarters at the Jesuit Observatory at Zi-ka-wei. The report of that Institution, of which the first number was issued as recently as 1st July 1906, includes observations from the Philippines, Formosa, the coast of China, the Yang-tse Valley, Korea, Manchuria, Japan, and South-eastern Siberia. The area charted is thus very great, and it is not extended in the Japanese report. It may be mentioned, in passing, that both the China Weather Service and the Imperial Meteorological Service of Japan do us the honour of printing the textual portions of their reports in English as well as in the native sign-writing.

Little information is available day by day from Northern Asia. Observations are given in the Russian report for a number of stations along the Siberian railway, but these are not charted, partly because all the stations lie along a line, and thus the results do not lend themselves to cartographic representation, and partly because many of the stations are at such great altitudes that the reduction to mean sea-level becomes uncertain. When the day comes for the issue of a Siberian Daily Weather Report, it will, perhaps, contain charts showing the distribution of pressure at a level considerably above that of the sea.

For the southern hemisphere we have as yet only two Daily Weather Reports containing maps. One of these is issued by the Meteorological Service of the Argentine, and includes a considerable portion of the South American

Continent. The other is prepared at the Observatory of Sydney, and takes in the whole of Australia and New Zealand. Daily maps are not published for any part of South Africa; the Daily Weather Report of the Meteorological Department of the Transvaal contents itself as yet with a general statement of the changes of pressure which have occurred during the past twenty-four hours.

Note.—The Daily Weather Report may be obtained on payment at the Meteorological Office, 63 Victoria Street, London, S.W., of a subscription in advance (for not less than a quarter of a year ending at the official quarter days, *e.g.* 31st March, 30th June, etc.) at the rate of £1 per annum for delivery by book post. Copies for other periods than the official quarters of a year are charged at the rate of 1d. per copy; postage is additional.

By arrangement with H.M. Stationery Office, upon giving the necessary notice, additional copies of the Daily Weather Report for one day, or a succession of days, will be printed off and supplied for class use at the rate of 6d. for 10 copies, exclusive of postage.

Surplus copies of charts prepared for exhibition, or of back numbers of the Daily Weather Report, are also available for educational purposes upon application to the Director.

4.

RAIN-PRODUCING EAST WINDS AND THEIR INFLUENCE ON THE SUMMER OF 1907.

By Ralph Richardson, F.R.S.E.

One of the commonest experiences on the east coast of Scotland is that a sudden change of wind to the east is followed shortly afterwards by rain. Local proverbs and observations by old weather-watchers bear out this conclusion. Says one antique rhyme—

> "When the rain is from the east,
> It is for four and twenty hours at least."

Says another more personally—

> "An easterly wind's rain
> Makes fools fain."

Which, in modern English, means that a man must be a fool to enjoy an easterly wind's rain.

Lord Bacon remarked that "wet weather with an east wind continues longer than with a west, and generally lasts a whole day"; while an old Scots rhyme indicated the rainy quality of the east and the good quality of the west wind by pointing to the direction in which smoke is blown—

> "When the smoke goes west,
> Gude weather is past;
> When the smoke goes east,
> Gude weather comes neist."

No doubt the sudden change of the wind from one quarter to another directly opposite is always a sign of disturbed weather, but the point I wish specially to refer to is the rain-producing effect of a sudden change of wind to the east on the east coast of Scotland.

The cause of this rainfall is doubtless the proximity of the sea, the vapour from which falls as rain to a considerable distance inland when blown westwards by easterly winds. That this vapour is constantly being formed and rising from the sea can be seen in fine weather, from the coast-line being often enveloped in haze or fog while a few miles inland the sun is shining unobscured.

In one of those masterly papers which we associate with the name of the late Dr. Buchan,* he remarks that "in the low-lying grounds of the east of Scotland, generally September, October, and November are the months of heaviest rainfall. An examination of the records shows clearly that the occurrence of the maximum rainfall in autumn in these parts of the country *is caused by the heavy and long-continued rains from the east*, often torrential in their character, which break in upon and frequently terminate tracts of fine harvest weather, and which neither extend far to westward (seldom as far as western Perthshire) nor to the higher agricultural districts. When these rains accompany NE storms, the downfall is most excessive along the foreshores of the Moray Firth and the Firth of Forth, which are opposed to the storm from the north and east. When, however, the storm is from the SE, which is the most frequent direction, the rainfall is heaviest in the parts of Berwickshire which slope up towards the Lammermoors, in Fife, and along the east coast northwards to Fraserburgh. Hence *the driest districts in Scotland* are the low-lying open situations north of the Cheviots, similar situations north of the Lammermoors, and about Nairn, Culloden, and Invergordon, all these places being at no great elevation above the sea, well protected to WSW by extensive mountain tracts, and to the SE from a large proportion of the heavy autumnal rains."

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* Paper on "The Physical Geography and Climatology of Scotland" in the *Report on the Present State of the Agriculture of Scotland* arranged under the auspices of the Highland and Agricultural Society, to be presented at the International Agricultural Congress at Paris in June 1878.

Further, Dr. Buchan points out that "when low barometric centres lie over England, the North Sea, Denmark, or the southern portion of Scandinavia —in other words, to southward or eastward of Scotland—the usually warm southerly breezes of summer give place to cold, raw winds from the east and north; and when this takes place during the critical stages of the crops, the effect on the harvest is very disastrous."

We had a typical experience of the correctness of Dr. Buchan's statement near Bridge of Earn on 1st and 2nd September 1907. After a minimum night temperature of 32°, the 1st of September opened splendidly with a cloudless sky, but the westerly wind of the previous day had changed to north-east. Until evening the 1st of September was fine, although the maximum temperature was only 62°. Next day (2nd September) the weather was as bad as that of the previous day had been fine. There had been no frost during the night, the minimum temperature being 46°, but the wind was east, and it rained all day.

A fortnightly period of westerly winds, lasting from 17th August, came to an end on 1st September, that is fifteen days of westerly wind ended in NE, and finally E, and the result was a day's continuous rain on 2nd September, my raingauge showing a fall of half an inch on that day. The atmosphere was correspondingly cool, the maximum temperature of the 2nd September being only 53°.

In keeping with Dr. Buchan's theory, a low barometric centre lay over Scandinavia, the lowest readings, 29·6 inches and less, being shown over Sweden on 1st September, while on that day in central Scotland the pressure was about thirty inches. But on the 2nd the barometer fell to 29·3 on the east coast of Scotland. Hence a cold, raw wind from the east, accompanied by low barometric pressure, began on 2nd September, and brought a deluge of rain which lasted nearly the entire day, to the mortification of agriculturists, who had already suffered enough from the cold and rainy summer of 1907.

The phenomenally bad character of that summer was due to four causes— (1) low temperatures; (2) low barometric readings; (3) rain produced by frequent changes of the wind to east from other quarters; and (4) lack of sunshine,—these four factors being sufficient to ruin any summer.

The *wind* has, it seems to me, a larger influence in making or marring the weather than any other agent, each locality having its own well-known good and bad winds. In my experience of the Melrose district, for example, and that extended over thirteen successive years, I found SW a good wind and SE a very bad one. One day, when the wind was in the latter quarter, I asked an old fisherman of The Pavilion what he thought of the weather, and he promptly replied: "The wind has gotten into the south-east. We'll hae three days o' wat weather," and he proved correct.

Residing for the past five years near the Bridge of Earn, I have found W a good wind and SE as bad a wind as in Roxburghshire. But both there and in East Perthshire I observed that a sudden change of wind from W to E was almost invariably followed by rain.

Taking the summer (June, July, August) of 1907 near the Bridge of Earn, at Ballendrick, situated 50 feet above the sea, we had in June 1907 3·73 inches of rain. The month opened wet, with SE winds, followed by two westerly days, and then east again, the raingauge registering an inch in the first four days. Then followed a westerly and southerly period, and then on the 12th east wind, and 1 inch of rain fell that day. On 15th a change from NW to SE produced rain. This was followed by another westerly and southerly period, until SE and rain set in again on 24th June, and the month finished with NE wind and rain, and the large total fall of 3·73, as compared with 1·05 in June 1906.

It is unnecessary to analyse similarly July and August 1907, but the former had a rainfall of 2·25 against 1·05 in July 1906, and the latter had a rainfall of 3·58 against one of 3·85 in August 1906, showing for the three months of June, July, and August 1906 a total rainfall of 5·95, and for the same months in 1907 one of 9·56. There was thus an excess of rainfall during the three summer months of 1907 of 3·61, as compared with the corresponding months in 1906, which was in our district a normal summer. While making due allowance for the effects of a low barometer, I consider that the frequent sudden shiftings of the wind to the east did much in this district to produce the cold and rainy weather which characterised the summer of 1907.

5.

REVIEW.

"CLIMATOLOGICAL ATLAS OF INDIA." Published by the authority of the Government of India, under the direction of Sir JOHN ELIOT, K.C.I.E., F.R.S., late Meteorological Reporter to the Government of India, and Director-General of Indian Observatories. —The Geographical Institute, Edinburgh: John Bartholomew & Co.

THIS Atlas marks the highest level yet reached in the cartographical representation of the mean results for the climatology of a large district. It represents the data for the period 1876–1900, published in Vol. XVII. of *The Indian Meteorological Memoirs*, as explained fully in an introductory memoir. The points in which it surpasses previous efforts are, first, the homogeneity and uniformity of the system under which the observations have been taken since the establishment of the meteorological service in India upon an Imperial basis; secondly, the representation of the mean values for separate hours, viz. 8 A.M. and 4 P.M., with 10 A.M. as well in the case of pressure, besides the means for the whole day; thirdly, the extension of the representation to all the meteorological elements usually included in a daily register; and fourthly, the numerical indication of the "steadiness" of the wind. We have thus, adequately represented, the statistical results for pressure and wind for each month and for the year at the three hours named, mean pressure and wind for the day with actual diurnal range of pressure and the range reduced to sea-level. There are also charts for mean temperature of the day for each month and the year, in addition; mean maximum, mean minimum, diurnal range, and absolute extremes. Mean daily relative humidity and vapour pressure, and the means for 8 A.M. and 4 P.M.; mean daily cloud distribution, and the distribution at 8 A.M. and 4 P.M.; normal rainfall, number of rain-days, and storm tracks.

All these represent an amount of careful organisation, persistence, patience, and scientific confidence in the face of the innumerable difficulties in the working of a meteorological system, that ensures to Sir John Eliot the warmest congratulations and the enduring respect of his colleagues, official and unofficial.

If anyone wishes really to appreciate what this achievement means, let him suppose a corresponding attempt made for the British Isles. The work could be done for temperature and pressure and rainfall—indeed much of it has been done already by Buchan and others, but for winds, humidity, and cloud what have we to offer? Anyone who looks at the published data month by month will be surprised at the anomalies that would need examination before a detailed map could be "dressed," to use a French expression. Some of them are very conspicuous in the diagrams published in the *Journal* of this Society for January 1905. For humidity at such an hour as 4 P.M. there are no adequate data.

It would be futile to attempt in this short notice any general account of the climatological results so well set forth in this Atlas. It is better to wait for Sir John Eliot's promised handbook. One or two notes will show the range over which the climates extend. .The isotherms include those for 125° and for 25°; the average daily range of temperature for the year, 30° and 12½°; 32½° is shown in some months; the isohyets, showing rainfall normals for the year, range from 150 inches, 200 inches in Ceylon, to 5 inches.

But it is not only as regards accomplished results that the Atlas is interesting. The maps invite study with a view to answering many curious questions. Take, for example, such a question as the relation of the general circulation to the distribution of temperature. From the early teachings of physical geography we are accustomed to regard the monsoons as the ebb and flow of air between the Asiatic continent and the ocean, in consequence of the alternate seasonal cooling and heating of the land. Modern meteorology suggests, on the other hand, that air flows round low and high centres, not strictly to or from them. Perhaps the modern view is the correct one, and the apparent seeking of the hot region arises from the fact that India is a peninsula protruding into the general westerly or easterly circulation round the continental low or high.

There is, again, the question of the reduction to sea-level, which can be applied to barometer readings, but not to the winds with which they are associated. From the point of view of the consideration of such points as these, some additional maps besides those already mentioned should be referred to. They include the representation of the orographical, political, and meteorological divisions of India, and general maps of Southern Asia and the Indian Ocean for January and July, as well as maps of rainfall, rain-days, and storm tracks arranged according to seasons. There are, moreover, charts for selected months of isobars at the 10,000-ft. level. Upon these one would like to see the 10,000-ft. contour marked, so that one could know at what points the isobars meet the land surface.

There are 120 maps in all. The fact that they are executed by Bartholomew is sufficient to indicate the beauty and thorough effectiveness of the colouring and printing.

The Atlas represents the climatological results for India as completed by Sir John Eliot during his tenure of the office of Meteorological Reporter, and is an enduring monument of his work. It denotes the completion of the first stage of meteorological discussion, which forms the basis for future work in ascertaining the causes of variation. The fact that such a work can be carried out so effectively for India, makes one reflect upon the reasons for its not being done for countries much nearer home. There is no lack of meteorological organisations in these countries. It is worth while to consider what more would be necessary to achieve as satisfactory results.

W. N. SHAW.

6.

REPORT from the COUNCIL to the GENERAL MEETING of the SOCIETY, held on March 19, 1907.

There has been no change in the Society's Stations since the Meeting in July.

The following Stations have been inspected since July by Mr. Watt:—Aberdeen, Balmoral, Peterhead, Glasgow (Belvedere Hospital), Leadhills, and Dumfries.

It is at this Meeting that the annual election of Office-Bearers takes place. The Members of Council who retire by rotation are Professor J. G. M'Kendrick, Sir James Marwick, and the Hon. John Abercromby. The Council recommend the re-election of the Hon. John Abercromby, and the election of Sir Archibald Buchan-Hepburn, Bart., of Smeaton, and Mr. Henry Coates, F.R.S.E., in place of the other two gentlemen.

The Registrar-General for Scotland has been regularly supplied with the Monthly and Quarterly Reports from the Office of the Society, and also, direct from the Observers in the eight large towns of Scotland, with the Daily Observations of Temperature and Rainfall required for his Weekly Reports.

The Meteorological Office in London has received direct from the Observers at Lairg, Glencarron, Balmoral, Fort Augustus, Fort William, Clathick, Marchmont, Dumfries, and Cally, Daily Observations of Temperature, Rainfall, and, in some cases, Sunshine for their Weekly Weather Reports.

Meteorological Statistics have been sent as usual to several Medical Officers of Health in various parts of Scotland for their Annual Reports.

The Council have appointed Mr. Andrew Watt, M.A., F.R.S.E., Assistant Meteorological Secretary. The Council have also agreed that Mr. Watt should occasionally deliver Lectures, under the auspices of the Society, on subjects of popular interest connected with Meteorology.

The Council have much pleasure in announcing the receipt of a donation of £100 from the Hon. John Abercromby.

Dr. Buchan's time has been very largely devoted to the carrying on of the general discussion of the Ben Nevis records. In connection with this discussion he has investigated the occurrence of Thunder and Lightning in Scotland, and a Paper on this subject will be communicated to the Meeting to-day.

REPORT from the COUNCIL to the GENERAL MEETING of the SOCIETY, held on July 9, 1907.

Since the last meeting of the Society, the Station at Clathick, Perthshire, has been discontinued. The Council are, however, glad to say that the instruments formerly at Clathick have been removed to the Strathearn Hydropathic, Crieff, where a Station has been opened under the charge of Dr. Meikle.

The Registrar-General for Scotland has been regularly supplied with the usual Monthly and Quarterly Reports from this Office; and also, direct from the Observers in the eight large towns of Scotland, with the Daily Observations of Temperature and Rainfall required for his Weekly Reports.

The Meteorological Office in London has been supplied, as in former years, with copies of the Bi-daily Readings at three of the Society's Stations, and with Monthly and Annual Summaries of the Observations at fourteen Stations.

The Meteorological Office has also received, direct from the Observers at Lairg, Glencarron, Fort Augustus, Fort William, Balmoral, Marchmont, Dumfries, and Cally, Daily Observations of Temperature and Rainfall, with in some cases Sunshine, for the Weekly Weather Report. Similar data were sent from Clathick till the end of April, and from Crieff since that date.

It is with profound sorrow that the Council have to report the death of Dr. Alexander Buchan, on 13th May last. Appointed Meteorological Secretary in 1860, when the Society was in its infancy, Dr. Buchan occupied that position for the long period of forty-seven years. This is not the place to refer to the many and great services rendered by Dr. Buchan to Meteorological Science, but the Council desire to record their sense of how much the Society owes to him. The results of many of Dr. Buchan's most important researches appeared first in the Society's *Journal*, and the welfare and honour of the Society was ever his foremost consideration. For nearly half a century the Society has been guided by a man whose faithful use of great natural gifts brought him a world-wide reputation, and whose ungrudging service has given the Society prominence in the scientific world. The Council propose to include in the next issue of the *Journal* papers dealing with various aspects of Dr. Buchan's scientific career.

The Council have to-day received the following telegram from Dr. Shaw, Director of the Meteorological Office, London:—"Meteorological Committee wish me to express their sympathy with Scottish Society in the loss occasioned by the decease of Dr. Buchan."

The Council have appointed Mr. Andrew Watt, M.A., F.R.S.E., Meteorological Secretary to the Society. Mr. Watt had been for some time Assistant-Secretary and largely responsible for the general work of the Society.

[ABSTRACT ACCOUNTS.

ABSTRACT OF THE ACCOUNTS OF THE SCOTTISH METEOROLOGICAL SOCIETY,

FROM 30TH JUNE 1906 TO 30TH JUNE 1907.

CHARGE.

I. **BALANCE** from last Account . . .		£495 6 2½
II. **INCOME** during Year—		
Annual Subscriptions .	£250 14 9	
Life Members' Subscriptions . . .	31 10 0	
Donation . . .	100 0 0	
Legacies . . .	...	
Journal—Sales and Advertisements . .	7 1 2	
Sum received from Meteorological Council for Weather Reports .	97 4 0	
Grant from Government	100 0 0	
		586 9 11
Note—		
Income for Year . .	£586 9 11	
Expenditure . . .	556 18 11½	
Surplus for Year . .	£29 10 11½	
Which being added to Balance on last Account	495 6 2½	
Balance at 30th June 1907	£524 17 2	
		£1081 16 1½

DISCHARGE.

I. **EXPENDITURE** during Year—		
Salaries		£332 1 4
Travelling Expenses, visiting Stations		4 17 0
Cost of *Journals*, paid during year .		59 8 3
General Printing, Advertising, Stationery, Bookbinding, Postages, etc. .		79 1 9½
Office Rent, Gas, Taxes, and Insurance		55 13 7
Furnishings and Instruments . .		5 17 0
Grant to Ben Nevis Observatory Fund in reduction of Overdraft . . .		20 0 0
		£556 18 11½
II. **BALANCE** at close of this Account—		
Loan to Ben Nevis Observatory Fund . .	£300 0 0	
Sum in Deposit Receipt with Union Bank of Scotland . . .	125 0 0	
Balance in Account Current with do. .	97 9 0	
Balance due by Treasurer	2 8 2	
		524 17 2
		£1081 16 1½

EDINBURGH, 4*th October* 1907.—Examined and found correct.

P. C. ROBERTSON, C.A., ***Auditor.***

ABSTRACT OF THE ACCOUNTS OF THE BEN NEVIS OBSERVATORY FUND,

FROM 30TH JUNE 1906 TO 30TH JUNE 1907.

CHARGE.

I. Grant from Scottish Meteorological Society in reduction of Bank Overdraft . .		£20 0 0
II. **BALANCE** at close of this Account—		
Loan from Scottish Meteorological Society	£300 0 0	
Balance due to Union Bank of Scotland, Edinburgh . .	180 4 11	
	£480 4 11	
Less due by Mr. A. Rankin for Furniture . .	27 7 4	
		452 17 7
		£472 17 7

DISCHARGE.

I. **BALANCE** from last Account . . .	£470 1 11
II. **EXPENDITURE**—	
Interest on Bank Account . . .	2 15 8
	£472 17 7

EDINBURGH, 4*th October* 1907.—Examined and found correct.

P. C. ROBERTSON, C.A., ***Auditor.***

7. TABLE OF ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1906.

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Dunrossness,	Shetland,	4·72	3 75	2·24	2·75	2·87	1·05	2·82	3·79	2·69	4·61	3·54	4·95	39·78
Lochend, Northmavine	„	5·43	5·53	4·63	3·10	4·07	1·17	4·51	2·92	3·01	4·94	4·63	5·90	49 84
Balta Sound, Halligarth,	„	4·95	5·30	3·50	2·78	5·08	1·53	3·37	2·36	3·15	5·21	3·74	5·37	46·34
Balfour Castle,	Orkney,	3·30	3·90	1·90	1·64	2·10	·30	1·76	2·40	2·68	2·82	4·59	4·52	31·91
Wick,	Caithness,	1·78	4·52	2·45	2·39	4·28	·60	2·40	2·12	1·78	3·14	4 40	3·33	33·19
Watten,	„	1·86	4·17	1·37	1·52	3·75	·33	2·16	1·82	1·93	2·48	4·58	2·81	28·78
Bettyhill,	„	3·81	5·39	2·92	1·73	4·43	1·04	3·87	2·17	1·97	2·88	6·78	3·72	40·71
Castletown,	„	2·75	6·49	2·31	2·34	3·31	·99	2·28	2·76	2·43	2·84	5·97	5·33	39·80
Invershin,	Sutherland,	3·51	4·09	2·45	2·71	4·76	·63	3·44	3·34	1·43	2·72	8·18	3·39	40·65
Altnaharra,	„	7·49	6·42	4·16	2·33	4·20	·93	3·27	3·24	2·17	3·27	8·66	5·88	52·02
Stornoway,	Ross,	6·67	7·95	1·54	1·80	3·82	1·60	4·00	2·07	·89	2·01	5·91	3·95	42·21
Strathpeffer,	„	5·26	3·66	2·33	2·42	3·23	·76	3·15	3·28	1·56	3·46	4·51	3·86	37·48
Swordale House,	„	4·60	5·00	2·80	2·30	4·00	·40	2·70	2·70	1·40	3·70	3·80	2·50	35·90
Fearn,	„	1·89	2·57	1·56	1·46	3·24	·32	1·93	3·81	1·51	2·55	5·46	1·46	27·76
Ardross Castle,	„	4·93	6·37	3·27	2·32	5·78	·62	2·91	3·64	1·88	5·71	7·18	4·11	48·72
Strathconan,	„	7·45	2·96	8·45	2·78	4·39	1·00	3·70	3·77	2·00	5·64	7·96	7·05	57·15
Applecross,	„	8·84	6·92	4·45	3·36	4·25	1·76	5·00	5·43	4·17	6·10	8·84	8·00	67·12
Loch Drome,	„	1·58	1·11	9·98	5·39	4·99	5·01	1·23	2·65	8·39	5·27	8·07	14·93	68·60
Loch Bhraon,	„	5·02	7·05	5·09	4·90	3·07	2·10	2 80	6·35	4·15	6·30	10·80	9·30	66·93
Braemore House,	„	4·50	7·00	4·65	5·20	2 50	1·95	3·80	6·30	3·30	6·27	10·85	8·25	64·57
Bendamph,	„	14·70	6·50	8·52	6·44	7·14	2·22	9·24	4·94	3·02	10·52	11·75	9·96	94·95
Glenuaig,	„	23·60	5·50	19·00	11·70	11·30	3·20	11·40	9·90	7·50	12·20	20·90	22·30	158·50
Lochmaddy,	Inverness,	3·43	3·56	1·61	2·90	2·89	1·21	3·88	4·53	2·97	4·49	4·09	4·38	39·94
Kinlochmoidart,	„	9·10	5·34	3·46	4·94	4·70	1·61	5·80	6·49	5·55	7·70	7·56	9·38	71·63
Glenquoich,	„	21·71	10·82	13·00	7·00	6·10	2·56	11·86	8·15	7·42	11·45	12·11	16·69	128·87
Glen Dessary,	„	15·10	6·82	8·62	5·86	5·63	2·22	9·76	10·01	7·19	10·51	10·63	12·66	105·01
Invergarry,	„	12·73	2·22	3·30	2·87	4·16	1·17	3·95	4·75	3·62	8·04	6·71	6·51	60·03
Glenfinnan,	„	16·17	7·75	7·67	6·34	2·98	1·26	9·94	7·47	8·04	9·96	11·49	15·14	104·21
Alvey Manse,	„	3·82	1·92	2·84	2·21	4·66	·83	1·93	4·67	1·88	4·98	6·26	2·65	38·65
Drumnadrochit,	„	6·37	3·42	3·50	1·91	3·46	1·09	2·02	3·16	1·36	6·27	3·45	3·10	39·11
Killin, Loch Ness,	„	4·30	2·70	4·60	2·10	4·60	1·60	3·60	2 60	2·70	4·60	4·80	3·60	41·80
Garthbeg, „	„	5·61	5·17	7·54	3·84	5·94	1·07	3·33	4·25	2·70	9·13	5·00	4·37	57·95
Aberchalder, „	„	13·33	2·61	4·03	2·61	3·74	·95	1·84	3·47	1·55	6·99	4·21	2·46	47·79
Foyers, „	„	9·43	4·19	3·99	2·40	3·62	·66	2·95	3·31	1·28	5·75	4·59	3·46	45·63
Invergloy,	„	13·84	6·81	7·23	3·10	3·46	1·64	6·98	5·47	4·52	6·56	6·31	9·15	75·07
Loch Leven Water Power—														
No. 1 Kinlochleven,	„	12·97	6·02	6·81	4·19	5·32	1·98	6·28	6·02	5·45	12·84	7·75	8·25	83·88
„ 2 Blackwater Dam,	„	10·39	5·74	5·51	6·57	5·60	1·90	7·56	6·39	4·99	11·12	8·99	6·73	81·49
„ 3 Ciaron House,	„	9·90	4·37	7·80	4·96	4·48	1·41	6·40	5·99	4·38	8·83	8·29	8·25	75·06
„ 4 Blackwater House,	„	16·20	5·87	9·16	3·90	5·30	1·66	8·22	5·60	4·50	10·25	7·96	7·04	85·66
„ 5 Cam Bridge,	„	...	...	...	3·78	4·65	·94	5·62	5·26	3·87	8·50	4·94	5·74	...
„ 6 Invercam,	„	...	...	...	3·85	4·49	1·18	5·88	5·82	4·27	8·10	6·58	7·03	...
Delnies,	Nairn,	2·46	2·11	2·37	1·65	3·09	·71	2·68	2·98	1·38	3·57	4·90	1·83	29·73
Achareidh,	„	1·81	1·89	2·32	1·62	3·02	·56	2·15	3·55	1·51	3·03	4·36	1·75	27·57
Budgate,	„	2·76	2·18	2·92	2·06	3·41	·80	2·01	3·15	1·38	4·07	5·24	1·91	31·89
Grantown,	Elgin,	1·69	2·26	3·06	1·84	5·75	1·31	1·81	4·33	1·45	4·97	7·17	3·23	38·87
Archiestown,	„	1·52	3·16	3·92	1·90	4·68	1·34	2·07	4·30	1·78	4·46	7·32	3·19	39·64
Duffus House,	„	·84	2·12	2·22	1·86	3·49	1·08	2·13	3·11	1·66	3·52	5·87	1·82	29·72
Kinloss,	„	·89	2·44	2·14	1·75	3·25	1·19	1·86	2·94	2·03	3·22	5·28	2·03	29·02
Cullen House,	Banff,	1·10	1·95	2·60	2·25	4·00	1·20	1·65	2·30	2·20	3·85	5·47	3·00	31·57
Earl Hill,	„	·84	2·95	1·48	2·22	4·85	·94	1·21	2·42	1·78	4·56	4·14	2·79	30·18
Aberlour,	„	1·54	3·40	4·49	1·99	6·22	·41	·61	3·61	2·00	6·02	8·14	2·32	40·75
Dufftown,	„	1·66	3·81	4·35	2·30	6·48	1·29	2·15	4·71	2·13	6·20	8·93	3·45	47·46
Keith,	„	1·28	2·41	3·03	2·01	5·61	1·61	2·70	3·66	1·67	4·76	7·66	1·85	38·25
Coldstone Sc'lhouse,	Aberdeen,	2·37	2·89	2·49	1·78	6·17	·84	1·39	5·68	1·40	5·56	6·62	2·91	40·10
Braemar,	„	3·63	2·87	2·96	1·78	5·45	·77	1·20	2·87	1·50	5·34	6·72	2·29	37·38
Alford,	„	1·97	2·31	2·40	1·76	6·55	·60	1·99	3·31	1·59	5·21	6·78	3·38	37·85
Aberdeen,	„	1·37	2·08	2·04	1·68	4·87	·68	1·75	3·43	1·00	5·49	3·72	3·38	31·49
New Deer,	„	1·26	2·44	1·75	1·73	4 23	·72	2·04	2·59	1·52	5·69	5·75	3·53	33·25
Cranford,	„	1·57	2·52	2·20	1·55	5·37	·74	2·54	3·56	·85	6·23	4·34	4·16	35·63
Johnston Lodge,	Kincardine,	1·98	1·46	1·52	1·28	4·08	·79	1·63	5·72	1·26	4·51	5·46	5·15	34·84
The Burn,	„	3·02	1 79	1·39	1·48	5·50	·69	2·03	4·82	1·17	6·09	4·98	3·08	36·04
Arbroath W'rw'ks,	Forfar,	1·45	·75	·87	·80	4·25	1·38	1·52	4·71	1 16	3·74	2·86	2·70	26·19
Brechin,	„	2·49	1·55	1·16	1·32	5·68	·32	1·75	4·17	1·22	3·69	4·78	2·02	30·15
Buddon Ness,	„	1·97	·69	·90	·83	5·12	1·03	1·20	4·93	1·05	3·21	2·35	·94	24·22
Broughty Ferry,	„	1·86	·73	·95	·86	4·88	·96	·89	4·54	·93	3·41	3·15	1·89	25·05
Dundee Waterw'ks—														
Hillhead,	„	2·16	1·02	1·09	1·20	5·86	1·19	1·74	4·74	1·25	4·31	4·72	1·71	30·99
Crombie,	„	2·94	1·10	1·22	1·20	6·50	1·20	2·24	6·04	1·40	4·50	5·16	1·90	35·40
Craigton,	„	1·99	·80	1·23	1·12	5·52	1·67	1·36	4·83	1·30	4·26	4·64	1·85	30·57
Balnakeilly,	„	3·20	1·50	1·30	1·20	4·20	·80	1·10	4·10	1·00	4·50	3·20	2·10	28·20
Creich Hill,	„	3·00	1·00	·90	1·40	5·00	·60	2·10	4·00	1·40	3·50	3·50	1·30	27·70
Lintrathen,	„	3·30	1·40	1·60	1·00	4·60	·80	1·10	4·30	1·30	4·60	4·40	1·50	29·90

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1906—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Dundee Waterw'ks—		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Glendamff,	Forfar,	5·00	2·60	1·40	1·90	5·60	1·20	2·40	5·00	2·00	5·20	5·70	2·50	40·50
Barney,	„	4·00	2·70	2·40	1·80	5·50	1·20	2·10	4·90	2·10	4·50	5·60	2·00	38·80
Longdrum,	„	3·40	2·40	2·10	1·60	5·50	1·80	2·10	4·90	1·60	5·00	5·50	...	...
Glendye,	„	4·30	2·20	2·40	1·40	4·00	2·40	2·40	4·50	1·70	4·80	4·60	...	...
Rannoch Station,	Perth,	9·86	2·19	8·69	2·23	4·14	1·15	...	...	...	...	5·97	5·27	...
Blair-Atholl,	„	4·68	3·31	2·22	1·30	4·74	·58	2·65	4·12	1·79	5·52	4·29	2·54	37·74
Coupar-Angus,	„	2·95	1·24	1·19	·92	4·46	1·27	·92	4·65	1·20	3·58	3·67	1·62	27·67
Ardvorlich,	„	12·13	4·07	3·80	2·86	7·12	1·83	2·90	7·10	2·55	11·80	5·88	3·41	64·45
Glasgow Wat'w'ks—														
Glengyle,	„	14·80	2·50	6·00	3·20	6·80	1·50	6·00	9·10	4·60	13·50	8·40	5·80	81·70
Hill above Tunnel at Loch Katrine.	„	14·00	8·90	5·40	2·70	6·40	1·20	5·70	8·80	4·40	10·90	8·30	6·50	83·20
Ledard,	„	5·55	·90	2·15	1·00	6·60	1·30	4·60	8·50	3·75	8·35	4·85	3·45	51·00
Loch Dhu,	„	13·40	6·10	6·10	2·60	7·60	1·20	4·70	7·60	3·80	10·20	7·60	6·20	77·10
Duchray Head,	„	15·00	1·20	9·20	5·80	13·10	2·40	9·00	13·10	6·70	16·80	12·80	6·60	111·70
Bet. Glen Finlas and Ben Ledi,	„	1·90	·70	1·10	·70	5·20	1·20	3·10	6·70	2·70	6·15	2·70	1·30	33·45
Brig o' Turk,	„	9·45	4·50	4·25	1·80	6·10	1·00	3·85	6·70	3·10	8·80	5·35	3·60	58·50
Loch Drunkie,	„	10·60	4·60	5·10	2·40	6·40	1·30	4·00	6·00	3·45	8·70	5·80	4·35	62·70
Loch Vennachar,	„	6·35	3·25	3·00	1·45	5·70	1·20	3·30	7·45	2·70	7·30	4·40	3·20	49·30
Aberfoyle,	„	7·90	3·55	6·85	·65	5·75	1·10	3·45	5·40	2·90	7·55	4·85	4·05	54·00
Corriehichon,	„	13·80	8·00	7·00	3·50	7·50	1·20	6·70	9·80	5·20	10·90	8·20	7·30	89·10
Corrie-Arklet,	„	12·60	11·10	7·80	3·70	7·50	1·30	6·20	9·90	5·20	11·20	8·90	8·50	93·90
Leny,	„	10·70	4·70	4·70	2·10	6·20	1·00	3·70	6·50	2·90	8·30	5·00	4·10	59·00
Doune,	„	4·64	2·59	2·75	1·32	4·87	1·62	2·05	4·75	1·93	5·11	3·70	2·34	37·67
„ Gartincaber,	„	4·96	2·84	2·93	1·74	5·39	1·88	2·09	5·25	1·97	5·83	4·16	2·84	41·88
„ High Braes,	„	6·58	3·08	4·17	2·01	6·02	1·35	2·96	5·78	3·23	6·88	5·57	3·43	51·06
Net'r Cambushinnie,	„	5·80	3·31	3·17	1·50	5·28	1·63	2·30	5·46	2·15	5·57	5·08	2·52	43·77
Lynns,	„	4·40	3·10	2·95	1·38	5·41	1·69	2·08	5·48	2·14	5·04	4·52	2·88	41·07
Kippenross,	„	2·55	2·40	2·45	·20	5·25	1·45	1·95	5·35	1·70	5·55	3·45	3·25	35·55
Kippendavie,	„	5·96	3·55	3·34	1·75	6·10	2·80	2·18	5·17	2·80	6·10	5·40	2·54	47·69
Glensherup,	„	8·26	8·41	3·80	2·50	7·26	1·85	2·39	4·87	2·00	7·50	6·00	2·40	57·24
Bridge of Earn,	„	3·70	1·70	·50	·30	5·00	1·05	1·05	3·85	1·10	3·90	3·20	1·20	26·55
Abernethy, Ayton,	„	4·11	1·82	1·68	·58	6·27	1·14	·85	4·43	1·02	3·86	3·75	1·84	31·35
Tayport Low Light.,	Fife,	2·15	·83	1·09	·90	5·09	·97	·94	4·68	·80	3·79	3·63	1·54	26·41
Balcarres,	„	2·67	·97	1·98	·75	6·61	1·93	1·13	5·79	·98	7·35	3·96	2·19	36·31
Gilston, Colinsburgh	„	2·69	·94	2·02	1·03	6·51	1·30	1·12	5·88	1·35	6·63	4·51	2·28	36·26
Lothrie Reservoir,	„	2·82	1·48	2·17	1·05	6·64	1·48	1·02	5·51	1·26	5·56	4·82	1·44	35·25
Craigluscar,	„	3·35	1·80	2·55	1·10	5·90	1·90	2·00	6·20	1·70	5·50	4·60	1·90	38·50
Keavil,	„	2·86	1·34	2·23	1·13	5·04	1·69	1·44	4·40	1·00	4·67	3·93	1·38	31·11
Outh,	„	2·77	1·21	2·22	1·18	7·25	2·41	1·69	6·34	1·57	5·78	4·43	1·26	38·11
Clatto Reservoir,	„	3·00	1·10	1·46	·75	6·17	1·35	1·26	4·66	1·15	4·91	3·58	1·39	30·78
Luscar, Gauge I.,	„	3·70	1·59	2·60	·94	4·84	2·42	1·64	6·09	1·33	4·66	4·18	2·37	36·36
„ „ II.,	„	3·55	1·53	2·55	·92	4·80	2·35	1·56	6·01	1·32	4·61	4·16	2·33	36·69
Dollar,	Clackmannan,	4·74	2·76	3·17	1·51	6·39	1·80	2·47	5·61	2·77	6·73	4·71	2·37	45·03
Alloa,	„	3·96	1·99	2·45	·69	4·73	1·74	1·73	6·19	1·64	4·15	3·13	1·92	34·32
Loch Leven Sluices,	Kinross,	4·47	2·11	2·68	1·05	6·28	1·67	1·29	5·57	1·35	5·33	4·64	1·67	38·11
Blairingone,	„	4·66	2·26	2·93	1·85	5·94	1·92	2·17	7·12	2·23	5·85	4·69	2·09	43·71
Gelly Bank,	„	3·54	1·90	2·84	1·12	5·25	1·40	1·42	5·06	1·35	4·58	3·99	1·65	34·10
Kerse, Gauge No. I.,	Stirling,	4·30	2·00	3·60	·90	4·30	1·50	2·40	4·40	2·00	4·40	3·60	2·60	36·00
„ „ No. II.,	„	4·51	1·41	3·43	·98	4·36	1·43	2·43	4·49	1·88	4·46	3·67	2·53	35·58
Polmaise,	„	4·80	2·54	2·95	·70	5·46	1·85	3·05	5·20	1·77	5·12	3·20	2·55	39·19
Stirling Waterw'rks,	„	5·29	2·37	2·39	1·02	5·10	1·96	2·44	5·57	1·89	6·59	4·59	3·44	42·65
Mugdock Reservoir,	„	4·45	2·85	3·25	1·90	4·35	1·50	2·60	4·35	2·15	5·20	3·40	4·05	40·05
Killearn,	„	...	...	...	1·57	6·08	1·99	2·70	5·47	2·81	7·36	4·56	5·18	...
Currymire,	„	5·05	4·09	4·90	2·24	5·30	2·00	2·78	5·56	2·84	7·21	5·07	4·67	51·71
Falkirk, Cauldhame,	„	4·23	2·99	3·94	1·25	4·46	1·71	1·92	6·12	1·28	5·64	3·88	2·50	39·92
„ Burgh B'gs,	„	4·56	2·21	3·84	1·18	4·43	1·55	1·62	5·50	1·43	5·03	2·95	2·55	36·85
Arrochar House,	Dumbarton,	...	...	...	...	...	...	...	...	...	...	...	...	88·25
Roseneath, Achnashie	„	8·05	4·80	5·55	2·05	7·00	1·80	3·60	5·20	2·80	8·30	6·05	6·10	61·30
Glenborrodale	Argyll,	9·62	6·50	2·92	4·86	4·76	1·52	5·56	4·91	5·34	7·62	8·20	9·83	71·64
Quinish, Mull,	„	6·81	4·65	2·68	2·95	4·40	1·30	4·49	3·55	4·44	7·47	5·43	6·31	54·48
Kinlochspelvie „	„	10·95	6·95	5·59	5·72	8·39	1·83	7·92	8·18	7·56	8·76	11·79	13·37	97·01
Ardbeg, Islay,	„	5·03	5·47	3·44	3·20	4·14	1·04	3·23	5·00	2·16	6·24	5·29	6·89	51·13
Eallabus, „	„	6·12	5·65	3·43	3·02	3·80	1·30	3·31	4·16	2·29	5·74	5·00	6·30	50·12
Eriska,	„	7·00	4·23	4·12	3·78	5·43	2·15	4·99	6·10	4·91	7·65	4·99	6·66	62·01
Laudale,	„	12·06	8·94	5·23	4·77	4·96	·52	7·06	5·84	6·31	8·42	7·44	8·68	80·23
Ballachulish House,	„	16·78	6·52	6·31	4·45	5·30	1·68	6·70	6·75	6·28	10·39	6·48	10·38	88·02
Drimnin,	„	10·94	4·95	3·28	3·41	4·72	1·28	5·63	3·75	5·19	7·61	6·53	8·52	65·81
Inveraray, Newton,	„	9·13	5·70	6·28	3·59	4·88	1·55	4·91	6·28	5·22	10·18	7·63	8·70	74·05
Ardrishaig Canal Of.,	„	10·60	6·50	5·86	3·33	5·88	1·74	5·11	5·89	4·40	10·50	7·06	9·16	76·03
Campbeltown, The Rectory,	„	6·58	4·70	3·45	1·96	5·29	1·60	2·69	3·92	2·89	7·59	6·87	6·44	52·98
„ Witchburn,	„	5·52	3·94	3·15	1·85	4·38	1·73	2·95	3·79	2·29	7·04	5·91	5·24	47·79
Largie Castle,	„	5·36	3·64	3·37	1·59	5·45	1·09	2·74	3·92	2·72	6·90	4·42	3·44	44·64
Dunoon,	„	10·40	6·26	6·37	2·63	6·38	1·60	[10·	50]	3·29	10·15	7·22	7·59	72·39
ighnabruaich,	„	7·20	6·19	5·35	3·27	7·22	2·20	4·30	4·91	4·87	8·92	5·84	7·67	67·94
Vaulk Glen Res.,	Renfrew,	6·35	3·75	4·50	1·80	5·55	1·40	2·60	5·75	2·80	6·75	5·50	4·50	50·75

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1906—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Ryat Linn Reservoir,	Renfrew,	6·50	3·90	4·65	1·90	5·70	1·45	2·70	5·90	2·40	6·90	5·65	4·60	52·25
Middleton,	"	6·90	4·40	4·80	2·85	5·90	1·60	4·30	6·70	2·45	7·50	6·10	5·90	59·40
Black Loch,	"	7·50	4·70	4·85	3·10	6·40	1·60	4·40	6·90	2·50	7·65	6·40	6·40	62·40
Castle Semple,	"	5·27	3·77	4·99	1·96	5·95	1·29	2·77	5·38	2·21	5·72	5·03	6·30	50·64
Kilmalcolm, St. Oswald's,	"	5·60	4·57	5·30	2·19	7·60	2·96	2·82	6·46	2·57	7·60	5·59	4·60	57·86
" Wat'w'ks,	"	11·28	5·80	7·40	3·15	8·33	2·05	4·13	6·89	3·65	10·85	7·40	7·30	78·23
Greenock Wat'w'ks.—														
Prospect Hill,	"	9·24	5·20	5·75	1·97	6·33	1·87	3·78	4·77	3·62	8·63	5·95	6·04	63·15
New Yetts Dam,	"	9·04	5·11	5·59	1·97	7·00	2·00	4·30	5·09	3·39	9·02	7·12	5·80	65·43
Hole Glen,	"	7·88	5·15	5·46	2·02	6·47	2·08	4·10	4·88	3·48	8·72	6·83	5·71	62·68
Spango Burn,	"	8·20	4·90	5·40	2·20	7·40	2·10	4·60	5·60	4·60	10·00	7·80	6·20	69·00
Shielhill,	"	9·00	4·10	4·90	2·00	7·20	2·00	4·40	5·50	4·40	10·60	8·00	6·80	68·90
Comp'nsat'n Res.,	"	8·25	4·93	5·88	2·12	7·68	2·08	4·79	5·79	4·30	9·89	7·30	6·87	69·88
Loch Thom,	"	7·96	4·80	5·75	2·15	7·61	2·03	4·76	5·68	4·16	9·42	7·10	6·40	67·82
Kelly Dam,	"	8·00	5·40	5·10	1·80	7·80	2·20	4·20	6·70	4·50	9·70	6·40	8·30	70·10
Knockencorsan,	"	7·00	4·30	3·40	1·70	7·60	2·50	4·50	5·60	3·00	9·20	6·50	6·90	62·20
Largs Road,	"	7·05	4·25	2·40	1·83	4·00	2·00	3·76	3·09	2·00	8·40	3·80	5·50	48·08
Creuch Hill,	"	8·40	2·10	2·30	1·50	9·20	2·00	4·60	6·70	1·30	9·90	6·30	5·80	60·10
Duchall Moor,	"	9·20	3·40	4·40	2·50	9·20	2·70	4·30	7·20	3·20	10·00	7·10	6·50	69·70
Green Water,	"	9·10	4·50	5·10	2·50	8·00	2·00	4·70	7·00	4·00	9·50	6·40	6·60	69·40
Gryfe Reservoir,	"	9·00	4·80	5·90	1·80	6·90	1·80	3·80	5·90	2·80	8·70	6·60	5·40	63·40
Mansfield,	"	8·48	4·32	5·33	1·72	7·00	1·77	3·57	5·78	2·78	8·41	6·33	5·20	60·64
Darndaff Moor,	"	9·10	5·00	5·70	1·90	7·20	1·70	4·40	5·80	3·40	8·70	7·20	5·80	65·90
Paisley W'terw'ks—														
Stanely,	"	5·03	3·07	3·58	1·64	4·72	1·45	2·15	6·42	2·09	3·97	6·13	3·95	44·20
Back Thornleymuir,	"	5·00	3·70	3·60	1·88	5·23	1·64	2·49	6·77	2·53	4·32	6·68	3·63	47·47
Muirhead,	"	6·96	2·88	4·02	3·12	6·76	2·13	2·65	6·09	2·86	4·06	5·78	5·56	52·87
Springside,	"	7·81	3·05	4·49	3·24	7·14	2·35	2·83	6·69	3·26	4·24	5·31	5·93	56·34
Paisley, Crookston House,	"	5·00	2·70	4·05	1·00	3·85	1·20	1·80	5·30	1·25	5·65	4·45	3·50	39·75
Auchendores Res.,	"	7·69	4·88	4·98	1·07	6·21	1·35	2·78	5·25	1·98	6·90	4·95	4·30	52·29
Dougliehill Res.,	"	7·90	5·21	5·27	1·17	6·00	1·65	2·91	4·85	2·12	6·45	5·32	4·50	53·35
Loch Finlas,	Ayr,	7·94	4·29	4·37	2·01	4·02	2·20	4·23	5·22	2·27	8·04	4·92	7·23	56·74
Camphill,	"	5·80	4·05	4·00	2·40	8·60	2·20	3·40	7·70	3·75	5·35	9·95	5·80	63·00
Dalry, Blair,	"	5·01	3·52	3·73	2·27	6·25	1·26	3·75	5·68	2·97	6·75	4·74	5·25	51·18
Pinmore,	"	6·11	3·43	3·14	2·28	5·48	2·51	3·47	4·45	1·88	10·21	4·19	6·89	54·04
Saltcoats,	"	3·07	2·45	2·84	1·27	4·54	1·08	3·01	4·89	1·61	5·97	3·86	4·12	38·71
Kilmarnock, North Craig,	"	4·50	3·00	3·10	2·00	4·90	1·30	3·30	5·35	1·90	5·50	4·30	5·70	44·85
Ayr, Doonside,	"	5·09	3·20	3·61	1·65	3·90	1·17	3·05	4·98	1·62	5·99	4·11	4·54	42·91
" Doonholm,	"	5·08	3·17	3·39	1·69	3·63	·95	2·87	4·65	1·50	5·70	3·92	4·47	41·02
Glendrishaig,	"	4·25	2·65	3·15	1·48	3·30	·90	2·52	4·52	1·42	4·70	3·55	3·75	36·19
Maybole, Knockdon,	"	4·21	2·56	3·29	1·52	3·90	1·39	2·47	4·90	1·44	5·80	3·40	3·86	38·74
" Culzean,	"	4·00	2·30	4·00	1·60	3·75	1·60	2·75	4·15	1·65	6·30	3·45	4·75	40·30
Colmonell,	"	4·90	2·83	2·62	1·81	4·89	1·70	2·63	3·48	1·26	7·52	3·30	7·10	44·04
Glasgow C'p'ation—														
Queen's Park,	Lanark,	4·74	2·83	3·37	1·21	3·84	1·69	2·37	5·28	1·41	5·33	4·17	3·51	39·75
Maxwell Park,	"	4·95	2·09	2·29	·91	4·15	1·48	1·75	4·99	·98	5·12	4·32	2·67	35·70
Kelvingrove,	"	4·34	2·58	3·41	1·14	4·17	1·56	2·31	5·01	1·98	4·84	4·07	3·79	39·20
Springburn Park,	"	3·79	2·10	3·15	1·15	3·46	1·66	1·95	4·89	1·74	4·23	4·56	3·64	36·32
Alexandra Park,	"	4·47	2·50	3·57	1·09	4·63	1·67	2·43	4·86	2·03	5·15	4·49	3·67	40·56
Glasgow Green,	"	4·83	2·57	3·70	1·09	4·24	1·55	2·11	5·04	2·21	5·18	4·43	3·64	40·59
Bellahouston Pk.,	"	4·01	1·89	3·16	·89	4·22	1·20	2·18	5·18	1·49	4·75	3·92	3·02	35·91
Tollcross Park,	"	5·00	3·01	3·49	1·31	4·51	1·68	2·31	4·91	1·84	5·61	4·31	3·51	41·49
Ruchill Park,	"	4·70	2·70	3·41	1·35	4·47	1·71	2·25	5·00	2·10	5·07	4·70	4·11	41·57
Botanic Gardens,	"	4·53	2·45	3·27	1·26	3·47	1·42	1·96	5·04	1·75	5·03	3·89	3·50	37·57
George Square,	"	4·49	2·53	3·63	1·11	4·34	1·59	2·35	4·71	1·69	4·86	4·21	3·58	39·09
Hamilton W'terw'ks	"	5·20	2·85	3·20	1·25	4·60	1·20	1·90	6·00	1·60	6·10	4·30	3·90	42·10
Mauldslie Castle,	"	5·52	2·08	3·58	1·36	4·57	·52	1·66	5·28	1·04	5·86	3·74	3·26	38·47
Cambus Wallace,	"	3·42	1·50	2·30	·70	4·79	1·30	1·98	6·50	·60	5·70	2·80	2·05	33·64
Lanark Rhyber L'ge,	"	3·80	1·50	2·80	1·30	4·20	1·40	1·90	5·00	1·00	7·10	4·50	2·50	37·00
Cleghorn,	"	4·74	2·33	3·37	1·53	5·34	1·50	2·47	6·18	1·19	8·28	4·59	3·11	44·63
Lamington,	"	4·47	2·30	2·20	2·05	4·95	1·58	2·08	4·48	·48	5·75	4·78	2·37	37·34
Hillend Reservoir,	"	3·87	2·07	2·88	1·58	4·88	1·72	2·55	6·69	2·40	7·84	4·78	3·06	43·72
Roughrigg Res.,	"	3·08	2·22	2·86	1·04	5·15	1·42	2·05	5·65	2·04	7·28	4·21	3·28	40·18
Polkemmet,	Linlithgow,	5·98	3·25	3·95	1·93	5·96	2·06	3·33	6·31	2·22	8·26	5·26	3·37	51·88
Boghead,	"	5·07	2·87	4·02	1·40	5·47	1·85	2·86	7·42	1·63	7·60	5·52	2·93	48·64
Bo'ness, Grange,	"	3·48	1·56	2·46	·70	4·04	1·48	1·59	5·30	·91	5·09	3·26	1·57	31·44
Carriber Reservoir,	"	3·62	1·55	2·84	·90	4·98	1·14	1·91	4·88	1·28	5·53	4·52	1·74	34·84
Uphall,	"	3·67	1·50	2·77	1·00	5·15	1·60	1·52	6·70	1·05	6·50	4·27	1·76	37·49
Addiewell,	Edinburgh,	5·10	2·19	3·32	1·40	4·88	2·11	2·99	6·55	1·25	7·56	4·13	2·51	43·99
Edin. Waterworks—														
Portmore,	"	3·37	1·22	2·32	1·45	5·32	1·88	2·00	6·25	1·06	7·05	5·70	1·65	39·27
Bowbate,	"	4·45	2·25	3·92	1·53	6·80	2·40	2·93	7·70	1·74	9·50	7·40	3·10	53·72
Gladhouse,	"	3·72	1·43	2·95	1·35	5·27	1·96	1·91	6·92	1·07	7·09	5·86	1·96	41·49
Rosebery,	"	3·04	1·24	3·39	1·15	4·93	2·04	1·63	7·15	·87	7·19	4·90	1·63	39·16
Glencorse,	"	5·19	1·92	3·60	1·33	5·87	2·31	1·78	6·94	·85	9·03	5·56	1·51	45·89
Loganlea,	"	5·28	2·00	3·36	1·26	5·50	2·47	1·72	6·87	·74	8·81	5·95	1·62	45·58

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1906—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Edin. Waterworks—		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Harehill,	Edinburgh,	5·51	1·80	8·50	1·50	5·65	2·58	1·80	7·97	1·21	8·28	5·91	1·31	46·97
Harbour Hill,	,,	5·60	1·70	8·00	1·50	6·80	2·40	2·30	6·60	1·00	7·10	5·50	1·90	44·90
Clubbiedean,	,,	3·90	1·49	2·40	1·15	5·60	2·22	1·88	6·40	·70	6·80	4·60	1·20	38·29
Harlaw,	,,	8·71	1·74	2·97	1·28	5·52	2·24	1·88	6·59	·74	7·35	5·12	1·65	40·79
Harperrig,	,,	5·04	1·87	8·32	1·44	5·49	2·28	2·05	6·76	1·05	7·60	5·10	1·58	43·58
Crosswood,	,,	4·93	2·11	3·35	1·50	5·71	1·85	2·95	7·18	1·29	8·31	5·29	2·43	46·90
Alnwick Hill,	,,	3·51	1·11	2·87	1·02	5·00	1·55	1·22	5·78	·55	6·44	3·93	1·21	33·69
Swanston,	,,	4·52	1·44	2·40	1·01	5·34	1·83	1·38	6·83	·70	6·58	4·22	1·12	37·37
Edgelaw,	,,	8·63	1·52	8·33	1·29	5·00	2·19	1·88	7·72	·79	7·20	5·43	1·69	41·67
Davidson's Mains, Broomfield,	,,	2·93	·68	2·02	·72	5·89	1·57	1·41	4·60	·55	5·33	3·43	1·31	30·44
Leith, M.O.,	,,	2·43	·75	1·75	·82	5·31	1·38	1·78	4·75	·74	5·82	3·31	1·35	30·19
Edinburgh—														
City Observatory,	,,	2·51	·61	1·44	·73	4·92	1·37	1·77	4·79	·65	5·50	3·31	·95	28·55
Charlotte Square,	,,	2·85	·70	1·90	1·10	4·91	1·72	1·90	5·10	·85	5·80	3·55	1·60	31·98
George Square,	,,	2·48	·66	1·78	·80	4·84	1·37	1·99	4·56	·59	4·60	3·20	1·51	28·38
Streatham House,	,,	4·30	1·20	2·40	1·10	5·40	1·80	2·00	5·90	·70	5·90	3·80	1·80	36·30
Aberlady,	Haddington,	1·94	[2·00]		·75	6·14	1·93	1·37	4·89	·63	7·21	3·60	1 88	31·84
No. Berwick Res.,	,,	2·00	·35	1·20	·80	7·30	1·65	1·45	5·20	·75	7·48	3·79	1·59	33·56
Donolly Reservoir,	,,	2·83	1·52	1·75	1·22	7·50	1·39	1·39	5·26	1·26	7·46	4·74	1·85	38·17
Whittingehame,	,,	2·34	·66	1·82	1·86	8·28	2·11	·92	5·33	1·03	5·75	5·63	2·03	37·21
Beil,	,,	2·94	·82	1·67	1·46	8·89	2·25	2·58	5·31	·94	6·81	5·29	1·31	40·27
The Hangingshaw,	Selkirk,	3·64	1·87	2·19	1·19	6·61	1·46	2·16	6·41	·89	5·27	4·06	2·83	38·58
Clovenfords,	,,	2·40	2·58	1·98	1·50	6·07	1·65	1·73	6·61	·95	6·40	4·05	2·05	37·97
Talla Waterworks, Meggat Head, No. 1	,,	5·50	2·10	2·05	1·70	5·96	2·30	3·13	8·48	·80	7·00	4·40	1·70	45·07
North Esk Res.,	Peebles,	4·95	2·35	3·35	1·70	5·65	1·65	2·90	6·55	1·20	8·30	6·60	4·60	49·80
West Linton,	,,	4·76	1·80	4·07	1·87	6·48	1·71	2·52	6·44	1·10	9·67	5·81	2·87	49·05
Swinton Bank,	,,	3·83	1·15	1·96	·47	6·27	1·80	2·53	6·92	·64	6·38	4·03	2·03	37·96
Stobo Castle,	,,	4·65	2·03	2·90	·65	5·90	1·35	2·11	6·66	·50	6·11	4·02	3·25	40·13
Talla Waterworks—														
Loch Craig Head, No. 2,	,,	7·05	1·35	2·98	1·55	7·15	3·10	3·70	9·73	2·11	9·40	5·40	2·38	55·85
Ravenscraig, No. 3,	,,	9·45	2·28	3·68	1·82	5·42	3·43	5·31	11·31	2·51	9·71	4·03	2·09	61·95
Gameshope Loch, No. 4,	,,	8·56	2·23	2·85	1·65	7·43	2·83	4·38	10·06	2·08	10·60	6·48	2·13	61·28
Gameshope Farm, No. 5A,	,,	10·36	3·15	3·87	2·16	8·37	2·66	3·99	10·07	2·09	11·03	6·49	3·41	47·65
,, No. 5,	,,	9·61	2·47	3·40	1·98	7·90	2·86	3·72	9·60	1·90	10·11	5·99	3·01	62·55
Talla Linns Foot, No. 6A,	,,	8·42	4·20	3·58	2·14	7·47	2·69	3·31	8·84	1·48	9·51	5·52	3·37	60·48
,, No. 6,	,,	8·10	4·08	3·50	2·07	7·27	2·60	3·23	8·68	1·41	9·38	5·43	3·20	58·95
Quarter Hill, No. 7A,	,,	7·09	3·00	2·63	2·06	5·86	2·38	3·22	7·32	1·18	6·54	4·84	3·14	49·26
,, No. 7,	,,	7·00	2·77	2·44	2·05	5·50	2·24	3·25	7·14	1·19	6·36	4·78	3·03	47·75
Victoria Lodge—														
Daily,	,,	6·63	3·59	2·98	1·77	5·82	2·11	2·77	7·07	1·02	6·72	4·70	2·98	48·16
Monthly,	,,	...	...	2·72	1·65	5·42	2·05	2·62	6·53	1·01	6·20	4·60	2·82	...
The Hirsel,	Berwick,	1·68	·81	1·76	1·23	6·83	1·34	1·41	6·11	·88	6·85	2·91	1·26	32·07
Cowdenknowes,	,,	2·86	1·70	2·15	1·21	6·18	2·20	1·99	5·98	·91	6·81	3·26	3·70	36·40
Elliston,	Roxburgh,	2·48	1·20	1·86	·97	5·89	2·38	2·08	5·43	·70	5·95	2·75	2·47	34·16
St. Boswells, Fens,	,,	1·37	·47	2·35	·83	5·72	2·27	1·38	6·15	·71	5·48	2·61	2·56	31·85
Wooplaw,	,,	3·19	1·56	2·06	1·45	6·12	1·60	1·19	4·54	·85	5·94	4·20	2·69	35·39
Lilliesleaf,	,,	2·98	1·44	1·60	·92	5·80	1·71	2·38	5·67	·59	5·65	2·88	3·06	34·68
Springwood Park,	,,	1·68	1·03	1·85	·99	5·70	1·92	2·36	5·33	·46	6·15	3·01	3·24	33·72
Jedburgh, Ancrum Bridge,	,,	2·34	1·28	1·99	1·03	5·00	2·03	1·80	5·48	·56	5·90	2·76	3·05	33·22
Branxholm,	,,	3·15	1·98	2·29	·91	5·14	1·21	2·32	5·18	·64	4·76	2·95	2·73	33·26
Ewes,	Dumfries,	6·16	3·58	4·20	2·01	7·80	1·64	3·22	8·98	1·67	7·88	4·73	3·20	55·07
Drumpark,	,,	7·20	3·68	3·63	1·42	8·50	2·04	2·84	7·36	1·16	8·00	4·18	5·90	55·91
Langholm, Burnfoot,	,,	6·46	3·50	3·85	1·96	8·65	1·95	2·89	8·24	1·58	8·82	5·56	3·12	56·58
,, Drove Road,	,,	6·73	3·84	4·39	2·00	7·71	2·10	3·06	8·62	1·44	7·19	4·77	4·20	56·05
Byreburnfoot,	,,	5·25	2·63	3·25	1·75	6·87	[3·75]		8·25	·87	5·50	4·00	3·88	46·00
Ericstane,	,,	6·70	3·75	3·47	1·66	6·41	1·77	2·64	8·32	1·42	7·30	4·98	3·81	52·23
Moffat, Hope Lodge,	,,	6·13	3·66	3·72	1·34	6·27	1·59	2·59	7·12	1·16	6·43	4·04	3·30	47·35
Lockerbie, Castle Milk,	,,	5·64	2·72	2·93	·81	6·44	2·18	2·81	7·22	1·72	5·12	3·39	3·06	44·04
Lochmaben,	,,	5·03	2·38	2·71	1·44	6·17	1·45	2·74	7·88	1·13	4·20	2·95	3·13	41·21
Maxwelton House,	,,	5·73	3·47	3·39	1·51	6·80	1·80	2·93	6·33	·88	8·22	3·93	3·80	48·79
Glencrosh,	,,	5·91	4·36	3·78	1·77	6 94	1·68	3·37	5·84	1·14	8·55	4·76	4·91	53·01
Arbigland	Kirkcudbright,	3·38	2·07	2·04	·92	5·76	1·78	2·39	6·44	·92	5·22	3·11	3·28	37·31
Jardington,	,,	4·25	2·50	3·32	·81	5·50	1·60	2·42	6·45	·80	4·80	2·70	3·00	38·15
Dalbeattie, Richorn,	,,	3·84	2·77	2·58	·72	7·47	1·88	2·31	6·57	1·27	6·87	3·75	3·36	43·39
,, Kirkennan,	,,	4·81	3·61	3·06	·78	6·85	1·77	2·48	6·70	1·47	6·91	4·24	4·02	46·70
Old Garroch,	,,	8·59	4·97	4·73	1·83	7·18	1·64	3·70	6·57	1·50	8·80	5·99	7·72	63·22
Glendarroch,	,,	6·56	4·14	3·80	1·27	6·90	1·43	2·94	5·60	1·09	8·66	4·86	5·84	53·09
Auchencairn,	,,	6·44	3·65	3·06	1·01	6·33	1·79	3·18	6·76	1·56	6·84	4·33	4·20	49·15
Ardwell House,	Wigtown,	3·77	1·56	1·59	1·02	5·12	1·68	3·11	4·11	1·19	5·90	3·25	4·95	37·25
Galloway House,	,,	4·00	2·75	2·59	1·29	4·49	1·33	3·05	4·56	1·15	6·11	3·32	4·38	39·12
Whithorn, Cutroach,	,,	3·35	2·40	2·44	1·15	4·18	1·18	2·65	4·19	1·22	5·08	2·75	4·90	35·49
Douglas,	Isle of Man,	4·81	3·75	2·31	1·82	4·73	1·14	2·39	4·38	1·62	4·80	4·30	5·29	41·34

3. RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

JANUARY–MARCH 1906.

	Height.	Mean Temperature.	Barometer.	Direction of Wind.								Calm or Variable.	Gales and Storms.	Rain.		Fog.
			Mean at 32°.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
JANUARY.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	40·7	29·473	4	2	6	4	6	14	22	4	0	78	...	1·40	14
Isle of May	240	41·2	29·440	2	4	2	0	10	0	40	4	0	7	12	1·64	52
Bell Rock	93	40·6	29·606	4	2	2	8	2	10	32	2	0	13	...	...	9
Kinnairdhead	120	39·8	29·514	6	2	0	0	8	20	12	14	0	108	17	1·15	8
Tarbetness	175	39·6	29·408	2	2	0	2	6	10	18	20	2	48	14	1·09	9
Pentland Skerries	170	41·0	29·380	2	2	0	6	14	22	14	2	0	126	12	1·88	0
Hoy Sound, Low	55	41·4	29·506	4	2	2	8	4	20	18	4	0	170	20	4·20	0
Start Point	80	41·3	29·470	2	0	2	4	8	26	16	4	0	97	14	2·64	0
Bressay Sound	105	41·7	29·399	4	2	4	4	8	16	16	6	2	84	20	5·00	0
Holbornhead	75	39·9	29·494	2	2	0	0	6	20	16	10	6	50	18	1·99	0
Cape Wrath	400	40·5	29·108	2	2	2	8	4	6	10	8	0	97	24	4·81	22
Butt of Lewis	170	41·4	29·354	4	0	2	6	12	18	12	8	0	22	21	5·26	1
Barrahead	683	40·4	28·893	8	0	0	4	8	20	18	4	0	4	24	2·25	92
Skerryvore	150	43·2	29·514	4	2	0	8	2	16	20	10	0	104	20	...	4
Rona	222	41·2	29·391	4	0	2	2	26	12	8	8	0	17	21	4·11	0
Ardnamurchan	180	43·4	29·475	4	0	8	2	8	12	24	4	0	83	24	4·48	0
Rhinns of Islay	150	43·5	29 586	6	2	2	4	6	8	18	14	2	72	24	5·10	10
Mull of Kintyre	297	42·9	...	0	0	2	12	8	18	2	18	0	67	18	4·20	15
Turnberry	96	43·1	29·655	6	2	4	4	16	18	8	4	0	228	16	...	8
Corsewall	112	43·9	29·652	2	2	2	6	12	18	14	6	0	55	20	3·90	0
Mull of Galloway	325	42·2	29·438	4	6	2	8	2	16	20	4	0	24	20	2·71	6
FEBRUARY.																
St. Abb's Head	224	36·8	29·376	7	8	0	1	10	9	19	7	0	66	...	0·61	11
Isle of May	240	37·1	29·344	9	4	1	1	6	2	25	8	0	5	6	0·31	26
Bell Rock	93	36·4	29·508	5	2	1	2	6	5	21	7	0	10	...	...	2
Kinnairdhead	120	36·5	29·413	14	2	0	1	5	10	8	16	0	155	16	1·62	5
Tarbetness	175	34·9	29·358	11	2	1	1	7	6	14	14	0	74	16	1·00	24
Pentland Skerries	170	36·9	29·312	11	8	0	8	9	8	8	14	0	80	16	4·08	14
Hoy Sound, Low	55	37·1	29·438	11	4	0	6	5	8	10	12	0	142	20	6·00	45
Start Point	80	37·4	29·372	13	1	2	8	9	7	10	11	0	96	18	4·83	0
Bressay Sound	105	37·8	29·321	10	5	1	5	8	6	8	13	0	99	21	7·90	36
Holbornhead	75	36·6	29·424	13	8	0	4	7	7	17	4	1	24	24	5·50	34
Cape Wrath	400	36·5	29·056	5	7	2	6	5	8	11	12	0	103	21	3·57	27
Butt of Lewis	170	37·1	29·317	13	3	4	8	8	5	10	8	2	83	18	3·46	8
Barrahead	683	36·1	28·860	6	8	0	2	11	8	16	9	1	13	22	3·28	7
Skerryvore	150	39·0	29·485	10	2	0	4	10	8	9	13	0	81	16	...	7
Rona	222	36·3	29·335	8	2	3	5	17	5	8	8	0	101	25	3·38	23
Ardnamurchan	180	37·1	29·418	4	2	4	6	8	4	15	13	0	99	19	4·14	0
Rhinns of Islay	150	40·0	29·537	10	4	0	4	6	10	9	10	3	52	19	2·43	10
Mull of Kintyre	297	38·4	...	2	2	4	6	11	6	6	19	0	108	22	2·20	3
Turnberry	96	38·8	29·566	8	1	5	8	11	11	6	6	0	158	15	...	0
Corsewall	112	39·7	29·567	5	1	2	9	7	14	6	12	0	92	18	3·10	5
Mull of Galloway	325	38·4	29·336	6	1	2	4	8	11	12	10	0	0	10	1·17	3
MARCH.																
St. Abb's Head	224	38·7	29·675	11	13	1	1	4	8	23	6	0	60	...	1·78	2
Isle of May	240	38·6	29·650	10	16	2	1	1	3	24	5	0	8	8	0·79	5
Bell Rock	93	37·8	29·796	15	8	1	0	5	5	25	3	0	13	...	...	2
Kinnairdhead	120	38·5	29·723	20	10	1	0	2	6	11	12	0	64	18	1·48	3
Tarbetness	175	37·0	29·670	15	6	4	0	1	4	14	17	1	18	19	0·90	6
Pentland Skerries	170	38·0	29·640	17	8	0	1	5	9	11	11	0	36	24	...	9
Hoy Sound, Low	55	39·1	29·765	16	9	0	8	2	14	11	7	0	125	17	2·28	41
Start Point	80	38·6	29·713	20	1	0	0	4	9	14	14	0	77	12	1·38	2
Bressay Sound	105	38·4	29·613	18	3	0	0	2	9	15	15	0	30	23	4·80	28
Holbornhead	75	38·0	29·743	17	9	1	0	4	7	19	4	1	15	22	1·95	11
Cape Wrath	400	37·5	29·392	4	17	0	2	8	10	11	15	0	44	23	1·95	16
Butt of Lewis	170	38·3	29·688	17	10	0	1	4	15	5	10	0	57	23	3·25	6
Barrahead	683	37·4	29·188	14	16	1	1	5	10	4	11	0	0	20	1·65	93
Skerryvore	150	40·5	29·791	11	15	1	2	5	11	5	12	0	57	12	...	0
Rona	222	37·6	29·660	16	16	1	0	10	10	4	5	0	0	23	2·71	15
Ardnamurchan	180	40·1	29·745	21	2	1	5	4	9	7	12	1	35	17	1·86	18
Rhinns of Islay	150	41·1	29·821	11	16	2	1	3	9	9	10	1	54	15	3·26	9
Mull of Kintyre	297	40·3	...	6	9	5	5	11	2	3	21	0	81	16	2·60	0
Turnberry	96	40·7	29·856	16	7	2	4	12	7	6	7	1	45	15	...	0
Corsewall	112	41·6	29·846	11	8	1	5	12	6	6	12	1	25	11	2·47	0
Mull of Galloway	325	40·2	29·622	10	10	5	1	8	12	4	11	1	0	13	1·47	12

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

APRIL–JUNE 1906.

	HEIGHT.	Mean Temperature.	BAROMETER.	DIRECTION OF WIND.								Calm or Variable.	Gales and Storms.	RAIN.		Fog.
			Mean at 32°.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
APRIL.	Feet.		Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	42·7	29·788	2	8	8	9	15	2	9	7	0	0	...	1·02	15
Isle of May	240	42·6	29·763	5	9	7	2	14	1	18	3	1	0	6	0·69	60
Bell Rock	93	41·3	29·928	5	10	2	9	9	4	18	3	0	0	...	...	17
Kinnaird Head	120	42·9	29·847	8	3	1	4	10	15	4	15	0	0	11	1·93	3
Tarbetness	175	42·1	29·793	10	2	3	4	4	8	12	15	2	0	12	1·20	40
Pentland Skerries	170	41·6	29·772	9	1	0	9	15	8	11	6	1	0	10	1·71	9
Hoy Sound, Low	55	43·1	29·887	7	3	3	9	5	14	16	3	0	8	15	3·05	9
Start Point	80	42·6	29·857	7	2	2	6	16	8	15	4	0	19	8	1·27	4
Bressay Sound	105	42·7	29·794	7	2	1	5	15	10	12	3	5	30	13	2·90	12
Holbornhead	75	43·1	29·876	7	1	3	4	14	10	10	7	4	0	14	1·66	1
Cape Wrath	400	41·0	29·511	4	5	2	4	7	21	11	6	0	0	12	2·44	13
Butt of Lewis	170	42·0	29·752	11	3	2	1	12	13	12	6	0	0	17	2·72	2
Barrahead	683	41·7	29·287	11	7	0	1	19	7	12	3	0	0	18	3·05	92
Skerryvore	150	43·7	29·874	14	4	2	7	7	10	5	8	3	0	18	...	12
Rona	222	41·8	29·780	12	5	2	1	22	7	4	6	1	0	12	1·70	3
Ardnamurchan	180	43·7	29·827	12	4	1	6	8	9	9	6	5	0	16	2·55	8
Rhinns of Islay	150	43·6	29·889	10	3	8	6	10	4	11	8	0	0	16	2·13	15
Mull of Kintyre	297	44·3	...	10	2	4	9	13	6	2	14	0	0	15	1·90	6
Turnberry	96	44·2	29·963	14	5	2	9	9	7	6	4	4	0	10	...	19
Corsewall	112	44·9	29·942	5	10	1	9	11	6	5	11	2	0	10	2·01	14
Mull of Galloway	325	44·5	29·707	14	3	8	6	4	14	4	6	1	0	7	0·63	2
MAY.																
St. Abb's Head	224	46·3	29·556	4	13	8	6	11	11	7	0	2	25	...	5·68	41
Isle of May	240	46·3	29·536	2	15	6	7	11	5	15	0	1	0	20	4·89	47
Bell Rock	93	45·4	29·711	5	8	10	9	16	8	6	0	0	34	...	...	10
Kinnairdhead	120	46·3	29·802	10	7	6	8	11	7	5	8	0	25	22	4·33	43
Tarbetness	175	45·2	29·607	3	6	17	10	11	3	4	7	1	28	20	2·97	56
Pentland Skerries	170	44·4	29·625	10	13	11	13	6	1	4	4	0	57	12	2·20	75
Hoy Sound, Low	55	45·3	29·756	9	12	10	14	4	3	7	2	1	89	18	3·19	63
Start Point	80	45·0	29·721	14	10	12	8	6	2	4	6	0	66	6	1·63	20
Bressay Sound	105	44·0	29·683	10	14	10	7	6	6	3	6	0	69	18	4·10	42
Holbornhead	75	45·8	29·726	13	8	9	8	11	3	4	4	2	60	22	2·69	48
Cape Wrath	400	43·1	29·376	0	17	16	4	2	11	5	6	1	96	20	3·88	93
Butt of Lewis	170	43·9	29·611	8	21	12	8	10	3	2	8	0	0	18	2·91	29
Barrahead	683	43·5	29·064	14	12	5	3	15	6	2	4	1	0	18	2·88	197
Skerryvore	150	45·4	29·642	11	11	7	7	10	7	3	6	0	24	15	...	45
Rona	222	45·1	29·560	22	9	4	4	16	0	2	5	0	0	20	2·31	25
Ardnamurchan	180	46·5	29·598	17	4	9	2	12	5	4	9	0	0	18	3·25	66
Rhinns of Islay	150	46·8	29·623	13	4	7	12	12	4	6	2	2	20	16	2·58	39
Mull of Kintyre	297	46·7	...	5	2	6	24	4	5	2	14	0	18	18	5·20	35
Turnberry	96	48·0	29·689	11	8	7	8	17	4	4	8	0	0	18	...	6
Corsewall	112	48·1	29·677	8	10	2	12	13	4	5	7	1	0	18	5·12	20
Mull of Galloway	325	46·6	29·446	9	3	7	8	13	14	2	6	0	0	17	3·32	88
JUNE.																
St. Abb's Head	224	54·9	29·861	8	11	5	9	3	7	8	3	6	0	...	1·23	86
Isle of May	240	54·2	29·838	2	9	13	6	7	5	17	0	1	0	8	1·08	101
Bell Rock	93	52·8	29·999	8	13	9	3	4	10	13	0	0	0	...	...	88
Kinnairdhead	120	53·0	29·952	17	3	2	3	10	6	7	12	0	0	7	0·37	29
Tarbetness	175	53·7	29·893	17	3	11	8	2	7	6	4	2	0	8	0·58	16
Pentland Skerries	170	50·4	29·886	5	6	4	7	9	3	9	16	1	0	6	0·26	106
Hoy Sound, Low	55	52·1	30·005	6	4	0	11	4	4	14	14	3	0	10	1·00	89
Start Point	80	51·0	29·975	7	3	5	6	12	1	14	12	0	0	...	...	62
Bressay Sound	105	50·1	29·919	16	2	0	3	12	5	11	9	2	0	8	1·40	50
Holbornhead	75	52·4	29·997	9	2	5	6	6	4	10	13	5	0	14	1·42	92
Cape Wrath	400	49·9	29·652	4	3	7	2	2	20	10	11	1	0	10	1·00	140
Butt of Lewis	170	50·6	29·908	13	5	4	5	5	14	7	7	0	0	9	1·48	37
Barrahead	683	50·8	29·875	12	9	4	3	14	9	4	5	0	0	9	1·76	206
Skerryvore	150	52·2	29·954	15	9	2	9	4	9	2	6	4	0	8	...	86
Rona	222	53·2	29·848	13	12	0	2	21	1	4	6	1	0	10	0·49	16
Ardnamurchan	180	53·0	29·914	13	3	0	4	14	5	9	6	6	0	8	1·83	78
Rhinns of Islay	150	52·8	29·963	18	3	2	9	8	2	5	5	8	0	6	1·08	130
Mull of Kintyre	297	52·9	...	19	5	1	9	10	2	2	12	0	0	7	2·30	97
Turnberry	96	55·6	30·018	12	4	2	1	25	4	8	2	2	0	10	...	7
Corsewall	112	55·0	30·003	5	5	3	10	9	5	11	10	2	0	10	1·84	33
Mull of Galloway	325	56·1	29·773	9	6	4	5	7	12	6	8	3	0	13	1·46	49

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

July–September 1906.

	Height.	Mean Temperature.	Barometer.	Direction of Wind.								Calm or Variable.	Gales and Storms.	Rain.		Fog.
			Mean at 32°.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
JULY.	Feet.	°	Inches.										Hrs.		Inches.	Hrs.
St. Abb's Head	224	56·6	29·698	8	11	5	9	8	7	8	3	8	0	...	0·68	31
Isle of May	240	55·6	29·666	0	4	6	4	8	5	33	0	2	5	8	1·57	70
Bell Rock	93	54·7	29·824	1	6	4	5	9	19	18	0	0	0	...	...	37
Kinnairdhead	120	55·3	29·752	5	4	0	5	15	12	6	15	0	24	9	0·40	33
Tarbetness	175	54·2	29·671	5	3	9	10	9	6	7	11	2	0	16	1·84	20
Pentland Skerries	170	52·1	29·677	0	1	7	13	9	7	13	10	2	48	12	1·58	70
Hoy Sound, Low	55	53·6	29·798	6	4	0	11	4	4	14	14	5	45	9	1·83	69
Start Point	80	52·7	29·766	7	3	5	6	11	2	13	18	2	51	12	1·22	59
Bressay Sound	105	51·9	29·722	15	3	0	8	12	5	10	10	4	36	14	4·10	74
Holbornhead	75	54·4	29·775	10	2	5	5	6	5	10	12	7	0	18	1·96	31
Cape Wrath	400	51·2	29·407	1	0	4	9	3	30	10	5	0	44	16	3·24	58
Butt of Lewis	170	52·4	29·664	1	1	5	10	7	22	9	7	0	30	21	3·05	7
Barrahead	683	51·9	29·148	4	0	1	9	13	17	14	3	1	0	12	2·70	157
Skerryvore	150	53 9	29·751	2	1	1	9	8	17	14	10	0	0	11	...	38
Rona	222	55·3	29 627	5	0	1	8	30	7	12	2	2	0	17	4·04	4
Ardnamurchan	180	54·4	29·716	2	1	3	8	17	12	13	5	1	0	21	4·07	30
Rhinns of Islay	150	54·6	29·781	2	0	2	5	16	9	15	7	6	0	12	1·78	56
Mull of Kintyre	297	55·8	...	8	3	1	20	13	8	3	11	0	21	18	4·10	27
Turnberry	96	56·9	29·845	6	0	2	8	16	16	9	2	3	0	13	...	0
Corsewall	112	57·0	29·837	3	0	2	12	15	18	5	7	0	0	8	2·05	2
Mull of Galloway	325	57·0	29·619	5	0	2	4	15	14	13	7	2	0	14	1·75	41
AUGUST.																
St. Abb's Head	224	58·5	29·640	4	2	4	10	10	14	10	6	2	0	...	5·47	59
Isle of May	240	56·8	29·612	4	4	6	10	6	2	28	2	0	0	18	4·58	184
Bell Rock	93	57·1	29·770	4	8	2	6	12	12	16	2	0	0	...	...	89
Kinnairdhead	120	57·1	29·719	10	4	2	6	8	12	6	14	0	0	11	3·32	88
Tarbetness	175	55·9	29·644	4	2	12	12	6	8	6	10	2	0	10	3·12	16
Pentland Skerries	170	54·1	29·646	8	2	16	8	6	2	12	8	0	0	9	1·27	75
Hoy Sound, Low	55	55·4	29·767	6	6	6	18	2	10	6	6	2	0	16	4·06	53
Start Point	80	54·3	29·736	6	4	10	14	6	8	6	8	0	0	10	2·58	42
Bressay Sound	105	52·9	29·711	16	6	4	10	12	4	4	6	0	0	16	5·50	86
Holbornhead	75	56·0	29·745	8	4	6	12	10	2	10	4	6	0	12	2·53	26
Cape Wrath	400	54·4	29·398	4	2	10	8	2	20	6	8	2	0	17	3·30	81
Butt of Lewis	170	54·7	29·648	6	6	10	6	4	14	8	6	2	0	15	2·86	1
Barrahead	683	54·1	29·124	6	4	4	4	24	8	8	4	0	0	17	4·21	243
Skerryvore	150	56·4	29·708	6	2	2	12	14	12	8	6	0	0	12	...	43
Rona	222	56·5	29·606	8	6	4	4	24	6	4	4	2	0	14	2·64	5
Ardnamurchan	180	57·1	29·661	4	2	10	8	16	10	6	4	2	0	19	3·67	13
Rhinns of Islay	150	56·6	29·721	8	2	4	12	16	4	10	4	2	0	18	3·70	73
Mull of Kintyre	297	57·4	...	8	2	6	26	4	6	2	6	2	0	20	6 40	77
Turnberry	96	58·6	29·788	4	4	2	12	18	10	8	2	2	0	14	...	11
Corsewall	112	59·2	29·775	2	2	4	16	14	10	8	4	2	0	10	3·78	37
Mull of Galloway	325	58·9	29·571	2	0	2	4	16	22	8	6	2	0	13	2·59	89
SEPTEMBER.																
St. Abb's Head	224	55·6	29·915	6	2	0	6	12	8	16	8	2	0	...	0·50	26
Isle of May	240	55·2	29·898	2	6	6	2	8	4	30	2	0	0	4	0·47	95
Bell Rock	93	54·8	30·036	2	8	4	2	10	10	22	2	0	0	...	...	80
Kinnairdhead	120	55·2	29·991	6	0	4	4	10	12	8	14	2	18	10	1·86	19
Tarbetness	175	53·9	29·922	4	2	8	6	8	10	10	10	2	4	8	1·48	40
Pentland Skerries	170	53·5	29·912	2	4	4	10	12	10	10	8	0	0	8	2·05	0
Hoy Sound, Low	55	55·0	30·025	2	0	2	22	6	4	16	4	4	0	7	3·28	5
Start Point	80	54·5	29·997	2	2	4	16	16	8	8	4	0	12	8	2·00	0
Bressay Sound	105	52·5	29·964	4	4	0	6	14	12	14	6	0	11	12	4·90	4
Holbornhead	75	54·7	30·006	4	0	2	4	18	6	12	6	8	0	9	1·58	0
Cape Wrath	400	53·0	29·658	2	2	4	8	4	26	10	4	0	9	9	1·45	8
Butt of Lewis	170	54·8	29·900	0	0	8	6	16	14	10	4	2	0	11	1·19	6
Barrahead	683	53·0	29·398	0	0	2	6	26	14	8	4	0	0	8	1·82	94
Skerryvore	150	56·2	29·987	0	0	2	16	12	14	8	6	2	18	9	...	24
Rona	222	56·1	29·883	2	0	2	4	28	8	8	8	0	0	8	1·82	0
Ardnamurchan	180	56·4	29 951	0	2	8	12	14	12	6	6	0	11	10	3·55	8
Rhinns of Islay	150	56·6	30·001	2	0	8	12	12	6	12	6	2	0	6	1·74	17
Mull of Kintyre	297	55·8	...	4	4	4	22	12	2	2	8	2	0	7	2·30	7
Turnberry	96	56·7	30·072	2	10	4	12	8	8	8	6	2	0	10	...	0
Corsewall	112	57·0	30·065	2	4	6	16	12	4	10	6	0	0	5	1·29	15
Mull of Galloway	325	56·8	29·836	6	2	8	8	8	14	6	6	2	0	7	0·87	29

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

October–December 1906.

	Height.	Mean Temperature.	Barometer.	Direction of Wind.								Calm or Variable.	Gales and Storms.	Rain.		Fog.
			Mean at 32°.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
OCTOBER.	Feet.	°	Inches.										Hrs.		Inches	Hrs.
St. Abb's Head	224	48·6	29·482	7	3	1	14	5	18	12	2	0	24	...	5·92	55
Isle of May	240	49·1	29·453	4	4	4	7	12	7	21	2	1	9	18	3·76	111
Bell Rock	93	49·3	29·615	3	8	4	9	10	10	14	4	0	12	...	...	65
Kinnairdhead	120	48·4	29·569	6	3	5	4	18	12	7	7	0	23	16	4·20	53
Tarbetness	175	47·7	29·466	5	6	6	14	5	10	10	6	0	22	16	1·99	13
Pentland Skerries	170	48·2	29 464	5	8	3	15	9	13	3	5	1	31	11	1·27	94
Hoy Sound, Low	55	48·8	29 587	6	9	2	19	5	14	3	4	0	22	16	3·86	45
Start Point	80	49·5	29·557	7	5	9	15	7	12	2	5	0	37	13	3·31	59
Bressay Sound	105	48·2	29·547	5	7	7	12	18	11	0	2	0	34	19	7·80	93
Holbornhead	75	48·2	29·559	4	4	5	7	17	14	2	6	3	10	22	2·08	40
Cape Wrath	400	48·0	29·196	3	9	7	11	11	14	3	4	0	28	17	4·14	19
Butt of Lewis	170	48·2	29·455	4	7	9	8	18	12	3	5	1	8	20	2·93	0
Barrahead	683	47·3	28·911	7	7	4	8	14	11	7	4	0	0	18	2·60	91
Skerryvore	150	50·2	29·497	5	8	4	10	9	10	11	5	0	25	19	...	10
Rona	222	49·3	29·414	8	6	9	6	21	4	5	3	0	15	17	2·75	0
Ardnamurchan	180	50·1	29·471	7	4	9	10	9	6	10	7	0	18	21	5·66	0
Rhinns of Islay	150	51·2	29·537	8	3	10	7	10	7	10	6	1	0	22	3·51	7
Mull of Kintyre	297	49·8	...	10	3	1	19	8	12	3	6	0	41	22	5·80	34
Turnberry	96	51·4	29·605	4	6	8	8	14	14	2	5	1	11	19	...	0
Corsewall	112	51·7	29·588	6	6	4	11	11	11	10	3	0	27	20	5·61	4
Mull of Galloway	325	50·8	29·361	8	1	6	4	15	17	8	2	1	9	16	5·18	27
NOVEMBER.																
St. Abb's Head	224	45·4	29·584	3	6	9	1	7	18	15	1	0	31	...	2·42	0
Isle of May	240	46·1	29·503	2	8	7	1	5	4	30	3	0	15	13	2·06	42
Bell Rock	93	46 0	29·657	2	8	7	0	4	13	28	3	0	0	...	...	3
Kinnairdhead	120	45·5	29·601	2	5	4	9	3	15	8	14	0	24	20	3·21	0
Tarbetness	175	44·7	29·584	2	10	7	7	1	7	16	9	1	20	20	4·28	0
Pentland Skerries	170	45·7	29·519	5	9	10	2	6	14	10	4	0	40	22	3·55	0
Hoy Sound, Low	55	46·0	29·647	4	10	6	4	4	10	14	6	2	84	22	5·64	0
Start Point	80	46·2	29 616	8	8	10	4	7	6	16	1	0	49	13	2·91	0
Bressay Sound	105	45·7	29·586	9	6	9	6	6	7	11	6	0	26	21	5·00	0
Holbornhead	75	45·8	29·626	3	10	6	6	5	13	14	3	0	28	23	4·85	0
Cape Wrath	400	44·6	29·270	4	10	12	3	2	12	9	8	0	70	22	6·70	5
Butt of Lewis	170	45·2	29·585	6	10	8	4	7	10	10	5	0	48	21	4·44	1
Barrahead	683	48·9	29·019	5	8	5	5	9	13	10	5	0	0	11	2·94	93
Skerryvore	150	47·1	29·614	6	10	1	7	11	8	11	6	0	86	17	...	15
Rona	222	45·9	29·513	4	9	9	2	11	15	5	5	0	91	17	3·46	0
Ardnamurchan	180	47·1	29·578	6	13	6	8	10	10	7	5	0	82	18	4·41	7
Rhinns of Islay	150	47·5	29·637	2	9	6	4	9	9	9	8	4	53	15	4·26	11
Mull of Kintyre	297	46·9	...	4	7	4	7	15	1	11	11	0	56	19	6·70	2
Turnberry	96	46·9	29·691	7	4	4	11	12	11	4	7	0	10	14	...	0
Corsewall	112	47·3	29 681	4	10	4	6	13	10	6	7	0	57	17	2·60	0
Mull of Galloway	325	46·6	29·474	10	3	3	3	6	24	7	8	1	0	12	1·77	5
DECEMBER.																
St. Abb's Head	224	38·4	29·577	13	0	0	0	13	17	13	6	0	48	...	1·30	37
Isle of May	240	38·7	29·561	8	5	0	3	1	4	33	8	0	7	11	1·27	85
Bell Rock	93	39·1	29·709	7	0	0	0	7	16	21	13	0	46	...	...	27
Kinnairdhead	120	38·3	29·634	14	4	0	0	3	20	9	12	0	166	20	2·17	4
Tarbetness	175	38·6	29·561	10	4	0	1	1	8	26	12	0	86	18	1·84	17
Pentland Skerries	170	40·0	29·521	10	3	1	3	9	16	13	7	0	64	18	2·73	7
Hoy Sound, Low	55	40·1	29·643	15	2	0	4	8	16	9	5	3	155	20	3·76	18
Start Point	80	40·0	29·604	11	0	1	1	15	6	17	11	0	219	17	4·69	4
Bressay Sound	105	40 1	29·522	17	8	1	0	18	10	10	6	2	106	22	4·20	0
Holbornhead	75	38·8	29·685	9	7	0	1	6	16	18	3	2	73	25	5·93	7
Cape Wrath	400	39·2	29·287	11	5	0	4	6	20	4	12	0	79	24	3·68	51
Butt of Lewis	170	39·4	29·554	12	2	1	4	8	17	8	10	0	101	27	8·07	7
Barrahead	683	38·5	29·093	9	3	2	1	12	14	12	9	0	5	19	3·52	146
Skerryvore	150	42·1	29·674	18	3	1	3	9	12	13	8	0	136	25	...	17
Rona	222	40·1	29·553	14	2	2	2	20	8	8	6	0	95	24	3·07	18
Ardnamurchan	180	41·7	29·670	10	2	6	3	9	14	13	5	0	52	26	5·57	23
Rhinns of Islay	150	42·2	29·738	7	9	1	1	10	12	10	11	1	78	22	3·62	18
Mull of Kintyre	297	41·4	...	14	4	2	4	14	2	5	17	0	73	18	4·70	13
Turnberry	96	41·6	29·786	3	4	2	13	12	6	11	11	0	41	20	...	0
Corsewall	112	42·1	29·776	8	1	4	8	10	7	12	12	0	72	17	4·61	11
Mull of Galloway	325	40·9	29·558	15	1	1	6	4	17	15	8	0	0	18	4·22	4

9.

THE METEOROLOGY OF SCOTLAND DURING 1906.

NOTES SUPPLEMENTARY TO THE QUARTERLY REPORTS, PAGES 165 TO 216.

JANUARY 1906.

The month was characterised by a low mean barometric pressure, a high mean temperature, and a rainfall deficient in some eastern districts, but very largely in excess towards the north-west.

The maximum *Black-bulb* in the sun was 98°·4, at Edinburgh, on 30th; and the minimum on grass 20°·0, at Marchmont, on 1st.

Wind.—E winds were less frequent, and SW winds more frequent than usual. Turnberry reported wind of gale-force on as many as sixteen days, but, in general, gales occurred only from 1st to 3rd, and between 24th and 27th. At Monach, however, a gale from SW was continuous from 11th to 15th.

Fog.—The Firth of Forth was visited by rather heavy fog on 5th, 8th, and 22nd. Otherwise, but little was reported from any of the Scottish Lighthouses.

Halos.—*Solar Halos*, at Leith, on 28th. *Lunar Halos*, at Balta Sound, on 6th and 9th; at Inverness, on 5th; at Corstorphine, on 5th and 7th; and at Polkemmet, on 8th, 9th, and 10th.

Thunder without Lightning.—At Deerness, Glenquoich, Tillypronie, and Loanhead, on 12th; at Deerness, on 17th; and at Poltalloch, on 28th.

Lightning without Thunder.—At Inverness, on 5th; at Nouphead and Stourhead, on 11th; at Balta Sound, Butt of Lewis, Dhuheartach, Lochindaul, and Greenock, on 12th; at Balta Sound, on 13th; at Deerness, Butt of Lewis, and Rhuvaal, on 14th; at Rhuvaal, on 15th; at Balta Sound and Rhuvaal, on 16th; and at Sule Skerry, on 24th.

Thunder with Lightning.—At Lairg and Lismore, on 11th; at Glencarron, Kyleakin, Sound of Mull, and Rhuvaal, on 12th; at Rhuvaal, on 13th; at Kyleakin, Balta Sound, and Rhuvaal, on 15th; at Glasgow, on 16th; and at Monach, on 17th.

Auroras.—At Balta Sound, on 17th.

FEBRUARY 1906.

The month was characterised by a very low mean pressure, a very low mean temperature, the month being much colder than January, and a rainfall of very irregular distribution, but largely in excess in the north and very deficient in East Lothian.

The maximum *Black-bulb* in the sun was 107°·5, at Edinburgh, on 18th; and the minimum on grass 5°·0, at Crathes, on 10th.

Wind.—As regards direction, winds from NW and N were largely in excess. Gales were rather frequent, occurring during the opening days of the month, between 7th and 11th, on 24th and 25th, and on 31st.

Fog.—Occurrence quite unimportant.

Halos.—*Solar Halos*, none reported. *Lunar Halos*, at Inverness, on 7th and 9th; and at Paisley and Glasgow, on 3rd.

Thunder without Lightning.—At Auskerry and Rhuvaal, on 1st; at Rhuvaal, on 2nd; and at Monach, on 8th.

Lightning without Thunder.—At Monach and Rhuvaal, on 1st; at Whalsey, on 3rd; at Holbornhead, on 8th; at Inverness, on 11th; at Deerness and Fort William, on 15th; at Bressay, Holbornhead, Balta Sound, and Butt of Lewis, on 16th; and at Crathes, on 28th.

Thunder with Lightning.—At Start Point and North Ronaldshay, on 1st; at Monach and Kinnairdhead, on 8th; at Ardnamurchan, on 11th and 12th; at Butt of Lewis, on 16th; and at Balta Sound, on 17th.

Auroras.—At Deerness, on 14th and 15th; at Balta Sound, on 12th, 16th, and 21st; and at Deerness and Skerryvore, on 25th.

MARCH 1906.

The month was characterised by a high mean pressure, a rather low mean temperature, and a mean rainfall just equal to the normal.

The maximum *Black-bulb* in the sun was 117°·7, at Edinburgh, on 28th; and the minimum on grass 7°·1, at Balmoral, on 14th.

Wind.—Winds from NW and N were largely in excess, and there were some rather stormy days before the 18th. Nouphead Lighthouse (Orkney) reported wind of gale-force on 1st, 6th, 7th, 11th, 12th, and from 15th to 18th.

Fog.—Fog was continuous at Nouphead throughout the 3rd, and a little was reported in Orkney and Shetland on some other days. Towards the south-west practically none occurred.

Halos.—*Solar Halos*, at Leith, on 10th and 14th; and at Fort William, on 14th. *Lunar Halos*, at Fort William, on 2nd; at Deerness, on 4th; at Crathes, on 6th; at Paisley, on 6th and 7th; at Glasgow, Turnberry, and Cargen, on 9th; and at Polkemmet, on 10th and 11th.

Thunder without Lightning.—At Leith and Corstorphine, on 8th; and at Broomlands, on 18th.

Lightning without Thunder.—At Balta Sound, on 7th.

Thunder with Lightning.—At Edinburgh, Leith, and Kyleakin, on 8th; at Glasgow, on 9th; and at Corstorphine, on 18th.

Auroras.—At Fort Augustus, Fort William, and Hyskeir, on 13th; at North Ronaldshay, on 17th; at Balta Sound, on 18th; at Balta Sound and North Ronaldshay, on 24th; at Deerness, on 25th; and at Balta Sound and Hyskeir, on 26th.

APRIL 1906.

The month was characterised by a high mean pressure, a slightly low mean temperature, a low mean rainfall, but with an excess towards north and north-west.

The maximum *Black-bulb* in the sun was 138°·0, at Balmoral, on 9th; and the minimum on grass 17°·0, at Coldstone, on 19th.

Wind.—There were fewer E winds than usual, and the wind seldom approached gale-force.

Fog.—A good deal on the Orkney coasts from 2nd to 4th, and in the Moray Firth on 11th and 12th.

Halos.—*Solar Halos*, at Balta Sound, on 3rd; at Fort William, on 19th; at Paisley, on 19th and 24th; at Glasgow, on 24th; and at Leith, on 4th, 7th, 14th, 19th, 24th, and 25th. *Lunar Halos*, at Balta Sound, on 3rd; at Arbroath, on 4th; and at Fort William, on 3rd and 4th.

Thunder without Lightning.—At Lairg and Glencarron, on 21st; and at Stronvar and Drumlanrig, on 30th.

Lightning without Thunder.—None reported.

Thunder with Lightning.—At Buchlyvie, on 30th.

Auroras.—At Balta Sound, on 25th and 30th; and at Montroseness, on 29th.

MAY 1906.

The month was characterised by a very low mean rainfall, a low mean temperature, and a rainfall in excess over the country generally, and unprecedentedly high in many eastern districts.

The maximum *Black-bulb* in the sun was 136°·7, at Crathes, on 31st; and the minimum on grass 20°·0, at Crathes, on 1st, and at Balmoral, on 11th.

Wind.—The wind direction agreed very closely with the normal distribution for the month, but the month was remarkable for gales from N and NE, from 16th to 20th, and for the heavy rainfall that accompanied them in the eastern half of the country.

Fog.—Rather large amounts were reported in the W from 6th to 8th; in E and N on 12th and 13th; and very generally from 25th to 30th.

Halos.—*Solar Halos*, at Leith and Fort William, on 2nd. *Lunar Halos*, none reported.

Thunder without Lightning.—At Duns Castle, Marchmont, and Broomlands, on 1st; at Stronvar, Buchlyvie, Coldstone, Loanhead, and Clathick, on 3rd; at Loanhead, on 8th; at Duns Castle, and Drumlanrig, on 10th; at Balmoral, Polkemmet, Leadhills, Duns Castle, Wolfelee, and Marchmont, on 13th; at Cargen, on 15th; at Stronvar, on 20th; at Glasgow, Drumlanrig, Tillypronie, Marchmont, Broomlands, and Dalkeith, on 24th; at Aberdeen, Stronvar, Glasgow, Clathick, Paisley, and Perth, on 25th; at Inverness, Gordon Castle, Glencarron, Fort Augustus, Arbroath, Perth, Marchmont, and Smeaton, on 26th; at Inverness and Montrose, on 27th; and at Gordon Castle, Aberdeen, Tillypronie, Crathes, and Dunfermline, on 31st.

Lightning without Thunder.—At Balta Sound, on 7th; and at Cally, on 13th.

Thunder with Lightning.—At Balmoral, Lednathie, and Buchlyvie, on 3rd; at Crathes, on 7th; at Cargen, on 10th; at Drumlanrig and Cally, on 13th; at Wolfelee, on 14th; at Tillypronie, Glasgow, Greenock, Paisley, Dumfries, Haddington, Cargen, Cally, Rothesay, and Wolfelee, on 24th; at Glasgow, Greenock, and Smeaton, on 25th; at Lairg, Fort Augustus, Lednathie, Montrose, Arbroath, Coldstone, Crathes, Dundee, and Haddington, on 26th; at Lairg, Corsewall, and Haddington, on 28th; and at Arbroath, on 31st.

Auroras.—None reported.

JUNE 1906.

The month was characterised by a high mean pressure, a slightly high mean temperature, and a decidedly low mean rainfall.

The maximum *Black-bulb* in the sun was 139°·0, at Balmoral, on 9th, and at Crathes, on 21st; and the minimum on grass 27°·9, at Balmoral, on 16th.

Wind.—The wind direction did not differ greatly from the normal, and wind force was below the average.

Fog.—The increased frequency characteristic of the summer period was well marked, and considerable amounts were reported between 6th and 24th. Sumburghead had the large aggregate of 250 hours, and reported fog of at least 12 hours' duration on as many as 13 days.

Halos.—*Solar Halos*, at Dumfries, on 8th; and at Leith, on 14th, 21st, 22nd, and 25th. *Lunar Halos*, at Polkemmet, on 4th; and at Paisley, on 7th.

Thunder without Lightning.—At Duns, on 7th; at Haddington, on 9th; at Wolfelee and Drumlanrig, on 12th; at Wolfelee, on 22nd; at Corstorphine, on 25th; and at Duns, on 26th and 30th.

Lightning without Thunder.—At Rothesay, on 31st.

Thunder with Lightning.—At Arbroath, on 31st; Douglashead and Langness, on 17th.

Auroras.—None reported.

JULY 1906.

The month was characterised by a slightly high mean pressure, a low mean temperature, and a rainfall decidedly below the average in east and south, but largely in excess towards the north-west.

The maximum *Black-bulb* in the sun was 139°·0, at Balmoral, on 22nd; and the minimum on grass 29°·0, at Balmoral, on 11th, and at Crathes, on 25th.

Wind.—The direction was rather variable, but winds from S and SW were somewhat in excess. On the 19th (at 11 a.m. at Bressay) a destructive gale from SSW sprang up in the extreme north and continued until nearly midnight on 20th, with wind veering to NW.

Fog.—For midsummer the occurrences were rather unimportant, though a good deal was reported in different parts of the coast around on 6th and 7th, and towards the close of the month.

Halos.—*Solar Halos*, at Leith, on 3rd. *Lunar Halos*, at Dumfries, on 5th.

Thunder without Lightning.—At Deerness, on 1st; at Crathes, on 2nd; at Duns, on 5th; at Crathes, on 10th; at Duns, Broomlands, and Marchmont, on 12th; at Montrose, on 20th; at Lochbuie, on 28th; and at Cromarty, Aberdeen, Edinburgh, Leith, Clathick, Corstorphine, Wolfelee, and Crathes, on 31st.

Lightning without Thunder.—At Rothesay, on 31st.

Thunder with Lightning.—At Crathes, on 11th; at Fort Augustus, Glasgow, Greenock, Cally, Paisley, Rothesay, and Marchmont, on 30th; and at Start Point, North Ronaldshay, Inverness, Gordon Castle, Kinnairdhead, Dunrobin, Aberdeen, Girdleness, Balruddery, Lednathie, Montrose, Dundee, Arbroath, Tillypronie, Balmoral, Bell Rock, Rattray Head, Duns Castle, Montroseness, Edinburgh, Leith, Haddington, Wolfelee, Broomlands, Marchmont, Smeaton, Barnsness, and Dalkeith, on 31st.

Auroras.—None reported.

AUGUST 1906.

The month was characterised by a slightly high mean pressure, a rather high mean temperature, and a rainfall above the average in most districts.

The maximum *Black-bulb* in the sun was 144°·0, at Balmoral, on 28th; and the minimum on grass 32°·0, at the same place, on 19th.

Wind.—The direction was average, and the force very moderate. At none of more than seventy lighthouses round the Scottish coast was wind of gale-force reported.

Fog.—The 8th was a day of continuous fog in the Firth of Forth; Shetland was rather frequently affected from 1st to 4th, from 12th to 16th, and from 28th to 31st; and only a few stations, and these in the west, had no fog during the month. MacArthur's Head had an aggregate of 154 hours, and reported fog on every day from 6th to 13th.

Halos.—*Solar Halos*, none reported. *Lunar Halos*, none reported.

Thunder without Lightning.—At Lednathie, on 1st; at Balmoral, Balruddery, and Buchlyvie, on 2nd; at Lairg, Fort Augustus, Balruddery, and Buchlyvie, on 3rd; at Aberdeen, on 4th; at Duns Castle and Broomlands, on 7th; at Clathick, Edinburgh, Smeaton, Leith, Dalkeith, Buchlyvie, and Wolfelee, on 8th; at Tillypronie, Broomlands, and Duns Castle, on 9th; at Fort Augustus, Greenock, Lednathie, Stronvar, and Clathick, on 14th; at Balmoral, Marchmont, Lairg, Loanhead, Haddington, Aberdeen, Dundee, Lednathie, and Duns Castle, on 15th; at Balmoral, Lairg, Perth, Crathes, Edinburgh, Marchmont, Loanhead, Duns Castle, and Polkemmet, on 16th; at Inverness, Duns Castle, and Marchmont, on 17th; at Aberdeen, on 25th; and at Marchmont, on 29th.

Lightning without Thunder.—At Smeaton, on 8th; at Kyleakin, on 13th; at Balta Sound, on 21st; and at Rothesay, on 27th.

Thunder with Lightning.—At Crathes and Marchmont, on 1st; at Gordon Castle, Inverness, Kinnairdhead, Montrose, Arbroath, Dundee Harbour, Lednathie, Clathick, Barnsness, Haddington, Smeaton, Polkemmet, Edinburgh, Leith, Corstorphine, Dalkeith, Dumfries, Broomlands, Duns Castle, Wolfelee, Drumlanrig, Cargen, Cally, and Coldstone, on 2nd; at Deerness, Gordon Castle, Balmoral, Lednathie, Butt of Lewis, Clathick, Dundee, Arbroath, Glasgow, Paisley, and Marchmont, on 3rd; at Marchmont, Broomlands, Corstorphine, and Haddington, on 8th; at Cape Wrath, Butt of Lewis, Skerryvore, and Rhuvaal, on 13th; at Kyleakin, Rhuvaal, Lochbuie, Lochindaul, and Paisley, on 14th; at Gordon Castle, Tillypronie, Arbroath, Lochindaul, and Crathes, on 15th; and at Inverness, Tillypronie, Coldstone, Lednathie, and Montrose, on 16th.

Auroras.—None reported.

SEPTEMBER 1906.

The month was characterised by an exceptionally high mean pressure, a high mean temperature, and a very low rainfall, the last half of the month being practically rainless.

The maximum *Black-bulb* in the sun was 150°·0, at Balmoral, on 1st; and the minimum on grass 20°·0, at Crathes, on 23rd.

Wind.—As regards direction, W winds were 2 days above their average frequency. Conditions were extremely quiet during the latter half of the month, but a gale from SW and W was more or less general on 5th. A gale also in Orkney on 8th and 9th, and at some outlying places in NW, between 11th and 13th.

Fog.—The only important occurrence was on 30th, when fog was almost continuous in the Firth of Forth, and on parts of the east coast as far north as Wick.

Halos.—Solar Halos, at Dunrobin, on 10th; and at Deerness and Leith, on 12th. *Lunar Halos*, at Drumlanrig, on 31st.

Thunder without Lightning. — At Balta Sound and Balmoral, on 3rd; at Balta Sound, on 12th; and at Lednathie, on 14th.

Lightning without Thunder.—At Lochindaul, on 14th.

Thunder with Lightning. — At Bressay, Whalsey, Tillypronie, and Coldstone, on 3rd; at Rothesay and Cargen, on 14th; at Deerness, on 15th; and at Balta Sound, on 18th.

Auroras.—At Deerness and North Ronaldshay, on 3rd; at Ardnamurchan, on 4th; at North Ronaldshay, on 16th; at Balta Sound, Gordon Castle, Fort Augustus, Deerness, Hoy, Start Point, Bressay, Nosshead, Hellyar Holm, Noupbead, North Ronaldshay, Sule Skerry, Montrose, Covesea, and Drumlanrig, on 22nd; and at Balta Sound, on 23rd and 24th.

OCTOBER 1906.

The month was characterised by a low mean pressure, a high mean temperature, and a very heavy rainfall, with a large number of days with rain.

The maximum *Black-bulb* in the sun was 130°·0, at Balmoral, on 8th; and the minimum on grass 16°·0, at Coldstone, on 30th.

Wind.—S winds were decidedly in excess. On 19th a severe NE gale was experienced in east and north, and on 26th a S gale in northern and western districts. At Noupbead the wind reached gale-force continuously from 13th to 16th, on 17th, on 19th, and on 26th.

Fog.—The 10th and 11th were very foggy days on the east coast, and around Orkney and Shetland a good deal occurred before the 12th, and on 22nd. Many western stations were entirely free, but MacArthur's Head had a large amount.

Halos.—Solar Halos, at Leith, on 1st; and at Deerness, on 23rd. *Lunar Halos*, at Fort William, on 6th; at Arbroath, on 7th; and at Balta Sound and Paisley, on 25th.

Thunder without Lightning.—At Skerryvore and Drumlanrig, on 16th; and at Broomlands, on 22nd.

Lightning without Thunder.—At Deerness, on 16th; at Lochindaul, on 18th and 24th; and at Rothesay, on 28th.

Thunder with Lightning.—At Skerryvore, on 28th.

Auroras.—None reported.

NOVEMBER 1906.

The month was characterised by a somewhat low mean pressure, a very high mean temperature, and a rainfall of irregular distribution, but unprecedentedly heavy in north and north-east.

The maximum *Black-bulb* in the sun was 116°·0, at Balmoral, on 11th; and the minimum on grass 17°·0, at Coldstone, on 21st.

Wind.—There was a decided excess of winds from SW and W. The weather was rather stormy during the first three days of the month, and from 24th to 27th. At Monach, a gale from SW and W was continuous from 11th to 15th.

Fog.—But little occurred, and absolutely none at the great majority of the Scottish lighthouses.

Halos.—Solar Halos, none reported. *Lunar Halos*, at Balta Sound, on 24th; at Arbroath and Lednathie, on 26th; at Glasgow and Drumlanrig, on 27th; and at Inverness, on 28th.

Thunder without Lightning.—At Balruddery and Perth, on 4th; and at Rothesay, on 31st.

Lightning without Thunder.—At Point of Ayre, on 30th.

Thunder with Lightning.—At Point of Ayre, on 20th; and at Glencarron, on 30th.

Auroras.—At Balta Sound, on 11th.

DECEMBER 1906.

The month was characterised by a slightly high mean pressure, a rather low mean temperature, and a rainfall of variable distribution, but deficient over about half the country.

The maximum *Black-bulb* in the sun was 106°·0, at Balmoral, on 2nd; and the minimum on grass − 4°·6, at Crathes, on 30th.

Wind.—As regards direction, there was a large excess of winds from a NW quarter. In northern and western districts the weather was stormy from 5th to 7th, whilst a NW gale from 26th to 29th was accompanied with snow, and proved most disastrous, as is recorded in the Report to the Registrar-General. At Nouphead, in Orkney, the wind reached, or approached, gale-force almost continuously from 2nd to 9th.

Fog.—Here and there in small amounts towards the close of the month.

Halos.—Solar Halos, none reported. *Lunar Halos*, at Deerness, on 23rd and 29th; at Inverness, on 23rd; at Lednathie, on 26th; and at Fort William and Drumlanrig, on 29th.

Thunder without Lightning.—None reported.

Lightning without Thunder.—At Lairg and Rhuvaal, on 4th; at Rhuvaal, on 5th; at Arbroath and Corsewall, on 8th; at Kyleakin, Lochindaul, and Corsewall, on 11th; at Corsewall, on 12th; at Bell Rock, on 26th; at

Whalsey and Buchlyvie, on 27th; at Girdleness, on 28th: and at Fort William, on 31st.

Thunder with Lighning.—At Fort William, Fort Augustus, Poltalloch, Rothesay, Mull of Kintyre, and Sanda, on 5th; at Bressay and Kinnairdhead, on 26th; and at Balta Sound, Girdleness, and Aberdeen, on 27th.

Auroras.—At Crathes, on 8th; and at Balta Sound, on 15th.

OBSERVERS' NOTES ON THE STATE OF PUBLIC HEALTH, ETC., DURING 1906.

JANUARY 1906.—HALLIGARTH, BALTA SOUND:—Diseases prevalent—Influenza, pneumonia and other diseases of the respiratory organs, rheumatism.

DUNROBIN:—Month open and mild on the whole, with a good deal of rain. Out-door operations well advanced. Influenza rather prevalent. Farm stock healthy, and keep fairly plentiful. Potatoes plentiful, and prices low.

BUCHLYVIE:—Thrush heard singing on 30th.

FEBRUARY 1906.—HALLIGARTH, BALTA SOUND:—Diseases prevalent—Pneumonia of an epidemic nature, influenza, quinsy, and troubles of a catarrhal nature.

DUNROBIN:—Month stormy, with heavy snowfall. Roads blocked in places with drifting. Sheep stock, deer, etc., hard pressed on the high grounds for food; hand-feeding necessary. Deer came down in numbers to the lower ground in search of food. Farm stock healthy. Out-door work very much interrupted.

KINGUSSIE:—Snow on the ground during the whole of February.

MARCH 1906.—DUNROBIN:—Early part of month cold and stormy, with a good deal of drifted snow. Roads blocked inland. Sheep and deer rather badly off for food. Deer frequently on lower ground in search of food. Keep fairly plentiful on most farms. Outdoor labour mostly at a standstill during first part of month. Latter part of month dry, and favourable for heather-burning and outdoor operations generally.

ROTHESAY:—Crocus in full bloom on 12th; flowering currant on 24th; primrose and daffodil on 30th; thorn or quick breaking into leaf on 30th.

DUMFRIES:—The low temperature and biting east winds of the latter half greatly checked vegetation, but a better time for sowing the corn crop has hardly ever been experienced.

APRIL 1906.—DUNROBIN:—Month up to 14th dry and suitable for out-door work, seed-sowing, and preparing ground. Latter half of month wet and cold, with occasional frosts at night. Hay getting scarce in places after the stormy weather of February and March. A good many deer died on the higher ground for want of suitable food.

CRATHES:—At the beginning of the month the cereal-sowing was in full swing, and seldom have these seeds been put in such a good seed-bed. The excessive number of frosty nights has kept back the growth of grass, and flock-masters are at some trouble, owing to shortage of straw, in getting sufficient food for sheep. Turnips are exceedingly abundant, but this is caused to some extent by the shortage of straw and the reduction of live-stock.

DUMFRIES:—The promise of early spring growth during the exceptionally mild weather of the first two weeks completely disappeared with the low temperature and withering winds of the second half, when frost caused much havoc.

MAY 1906.—DEERNESS:—The strong gale of the 17th rendered the grain crops, which were one or two inches above ground, yellow. Some five or six foggy, mild days towards end of month restored them to their former appearance. Jaundice prevalent amongst school-children.

DUNROBIN:—Month cold, dull, and wet. Crops making slow progress. Keep for cattle scarce. The last week of month milder.

CRATHES:—Owing to the excessive amount of rainfall very few farmers have been able to lay down any turnips this month. About the 9th the grass was seen to improve very rapidly.

LOCHBUIE:—Heard cuckoo on 3rd. First swallow seen on 8th.

JUNE 1906.—DUNROBIN:—Month dry, very little rainfall. Crops by end of month looking well, but on light land drought beginning to take effect. Owing to dry weather a good braird of turnips has been difficult to secure in places, seed having to be sown two or three times on some fields.

JULY 1906. — HALLIGARTH, BALTA SOUND:—Note on gale of 19th—"Great damage done to shipping in the harbour and at sea. The gunboat stationed here, though able to do 18 knots, was unable to get steerage-way on her to go to the rescue of a fishing-boat."

DEERNESS:—Most of the hay was cut during the latter half of the month. The bulk of it is still exposed on the fields, and no doubt has deteriorated in quality owing to the excessive wet.

DUNROBIN:—The first half of the month was dry, and rain much wanted. Heavy rains came on 17th. The drought was injurious to crops on light lands—straw will be short on such soils. Most other crops looking well.

AUGUST 1906. — DUNROBIN: — Most of month dull, with a good deal of rain. The last week fine and warm. Crops on the whole looking well, except grain crops on light

[*Continued on page* 164.

RETURNS from Additional Stations during the Year 1906.

STATIONS AND OBSERVERS' NAMES.	Height above Sea-Level.	Months.	BAROMETER.	AIR TEMPERATURE.					HYGROMETER. Mean at 9 a.m. and 9 p.m.				CLOUD.	RAIN.				WIND DIRECTION. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCES.
			Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean Max. A.	Mean Min. B.	Mean of A and B.	Highest.	Lowest.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.	Scale 0-10.	No. of Days.	Total Fall.	Most in a Day. Amount	Most in a Day. Day of Month.	N	NE	E	E	S	SW	W	NW	Calm or Var.	Scale of 0-12.
	ft.	1906		in.	in.	in.	in.	in.	°	°	°				in.	in.											
* BALTASOUND (Halligarth),	50	Jan.	...	42·9	35·9	39·4	49·0	30·0	...	...	...	...	6·8	29	4·95	0·60	27	5	0	1	3	8	14	18	13	0	3·6
(Shetland.)		Feb.	...	40·5	33·2	36·8	44·5	24·5	...	...	...	...	6·9	28	5·30	0·71	7	14	5	4	5	3	10	8	7	0	4·1
Dr. T. Edmondston Saxby.		Mar.	...	42·3	32·6	37·4	48·0	19·2	...	...	...	...	6·6	31	3·50	0·49	6	23	7	0	0	0	10	13	9	0	3·9
		Apr.	...	46·8	37·6	42·2	54·0	25·2	...	...	...	...	6·3	20	2·78	0·37	15	6	3	3	3	13	11	18	3	0	3·3
		May	...	48·3	40·3	44·3	55·5	35·0	...	...	...	...	7·5	25	5·08	1·34	16	9	8	22	4	6	0	12	1	0	3·3
		June	...	55·5	46·7	51·1	62·7	38·5	...	...	...	...	6 9	17	1·53	0·35	29	10	6	4	1	9	5	19	6	0	2·8
		1906																									
COLDSTONE, SCHOOLHOUSE,	608	Jan.	...	41·5	33·1	37·3	55·0	24·0	...	...	...	...	...	23	2·37	0·37	2	1	0	0	4	6	5	27	7	12	...
(Aberdeen.)		Feb.	...	38·8	28·2	33·5	45·0	16·0	...	...	...	...	...	16	2·39	0·72	11	1	0	0	0	3	4	14	18	16	...
J. B. Anderson.		Mar.	...	41·8	30·8	36·3	52·0	16·0	...	...	...	...	...	26	2·49	0·26	25	5	0	0	0	2	2	14	36	3	...
		Apr.	...	52·3	31·6	42·0	67·0	22·0	...	...	...	...	...	15	1·78	0·50	16	0	0	0	0	8	3	7	21	21	...
		May	...	51·6	38·0	44·8	60·0	24·5	...	...	...	...	...	30	6·17	1·33	16	7	0	2	3	3	8	4	11	24	...
		June	...	64·8	46·9	55·9	77·0	38·0	...	...	...	...	...	13	0·84	0·42	30	0	0	0	0	0	2	3	18	37	...
		July	...	64·0	46·1	55·1	75·0	39·0	...	...	...	...	...	18	1·89	1·06	31	0	0	0	1	8	13	14	6	20	...
		Aug.	...	63·9	48·6	56 3	85·0	41·0	...	...	...	...	...	21	5·68	1·69	8	1	0	0	1	11	11	13	6	19	...
		Sept.	...	63·5	42·3	52·9	86·0	28·0	...	...	...	...	...	17	1·40	0·55	3	0	0	0	0	5	5	13	4	33	...
		Oct.	...	52·2	39·2	45·7	63·0	22·0	...	...	...	...	...	25	5·56	2·54	19	0	1	0	10	7	12	4	11	17	...
		Nov.	...	47·1	38·1	42·6	58·0	22 0	...	...	...	...	...	25	6·62	1·31	19	5	2	4	4	0	8	17	12	8	...
		Dec.	...	39·0	28·1	33·6	57·0	5·0	...	...	...	...	...	21	2 91	0·65	27	0	0	0	0	3	8	12	25	14	...
		1906																									
HELENSBURGH II.,	300	Jan.	...	43·7	36·1	39·9	50·0	27·5	...	...	...	...	...	28	5·70	0·66	14	...	...	...	...	...	...	...	...	...	...
(Dumbarton.)		Feb.	...	41·5	30·2	35·9	47·0	23·0	...	...	...	...	...	15	3·20	0·40	16	...	...	...	...	...	...	...	...	...	...
J. R. Wilson, Waterworks.		Mar.	...	45·7	32·4	39·1	56·2	16·0	...	...	...	...	...	18	3·62	1·68	16	...	...	...	...	...	...	...	...	...	...
		Apr.	...	52·2	35·1	43·7	64·1	25·0	...	...	...	...	...	10	1·22	0·23	20	...	...	...	...	...	...	...	...	...	...
		May	...	53·2	40·7	47 0	62·9	29·0	...	...	...	...	...	24	5·36	0·82	23	...	...	...	...	...	...	...	...	...	...
		June	...	64·7	48·9	56·8	75·2	39 2	...	...	...	...	...	13	1·43	0·37	25	...	...	...	...	...	...	...	...	...	...
		July	...	62·3	48·8	55·6	71·2	43·0	...	...	...	...	...	19	2·65	0·57	14	...	...	...	...	...	...	...	...	...	...
		Aug.	...	62·9	51·6	57·3	71·0	44·2	...	...	...	...	...	21	3·86	0·79	12	...	...	...	...	...	...	...	...	...	...
		Sept.	...	62·8	47·4	55·1	86·2	37·0	...	...	...	...	...	11	2·26	0·56	11	...	...	...	...	...	...	...	...	...	...
		Oct.	...	54·1	42·7	48·4	63·2	30·0	...	...	...	...	...	25	6·43	0·75	26	...	...	...	...	...	...	...	...	...	...
		Nov.	...	48·7	39·8	44·3	56·0	28·0	...	...	...	...	...	21	4·52	0·75	29	...	...	...	...	...	...	...	...	...	...
		Dec.	...	42·1	32·9	37·5	52·0	16·0	...	...	...	...	...	17	4·30	1·22	16	...	...	...	...	...	...	...	...	...	...

* Returns from this Station printed hereafter in Registrar's Report.

		1906																							
LISSAN, (Tyrone.)	305	Jan.	...	44·7	36·0	40·4	51·0	28·0	39·6	1·0	·224	92	...	30	4·33	0·46	6	4	2	8	0	10	4	34	0	0	...
J. H. Staples.		Feb.	...	43·1	31·0	37·1	47·0	23·0	35·6	1·2	·186	89	...	25	3·44	0·38	2	7	0	6	0	4	0	32	7	0	...
		Mar.	...	47·0	35·1	41·1	53·0	26·0	40·8	1·6	·224	89	...	16	3·34	0·59	10	16	8	6	0	0	2	24	6	0	...
		Apr.	...	52·6	35·1	43·9	66·0	28·0	48·8	2·2	·240	85	...	18	3·22	0·71	24	7	4	7	7	2	1	19	13	0	...
		May	...	54·7	41·9	48·3	63·0	33·0	47·6	2·0	·282	87	...	25	4·72	0·79	3	11	7	9	2	7	3	18	5	0	...
		June	...	65·1	47·5	56·3	73·0	39·0	56·6	3·2	·366	80	...	8	1·10	0·30	20	9	7	11	1	6	1	18	7	0	...
		July	...	64·8	49·0	56·9	70·0	40·5	56·3	2·7	·377	83	...	19	2·94	0·48	27	2	0	0	2	10	4	37	7	0	...
		Aug.	...	61·8	52·7	57·3	79·0	41·5	58·1	1·9	·427	87	...	23	3·95	0·85	24	3	0	0	1	8	4	35	11	0	...
		Sept.	...	63·9	46·6	55·3	81·0	37·5	54·6	2·2	·366	86	...	10	1·62	0·59	11	0	0	14	3	5	4	29	5	0	...
		Oct.	...	54·8	41·2	48·0	63·0	26·5	47·0	1·2	·294	92	...	27	4·71	0·83	27	6	1	5	4	7	0	33	6	0	...
		Nov.	...	49·7	38·6	44·2	58·0	28·5	42·5	1·4	·241	89	...	20	3·74	0·57	18	4	6	10	2	0	3	31	4	0	...
		Dec.	...	43·7	35·4	39·6	53·0	18·5	38·2	0·9	·214	93	...	25	4·70	0·73	15	13	0	1	1	3	7	28	9	0	...
		1906																							
HEBRON, (Palestine.)	2900	Jan.	27·072	52·9	37·1	45·0	69·1	31·5	43·7	2·4	·233	81	5·0	12	6·87	2·30	3	3	1	12	2	4	7	11	22	0	3·4
Lat. 31° 31′ N. Long. 35° 8′ E.		Feb.	26·954	53·6	39·4	46·5	68·2	33·9	45·7	2·9	·243	80	6·6	14	7·53	1·77	21	1	3	1	7	4	4	26	10	0	4·2
Dr. Alexander Paterson.		Mar.	26·997	60·9	40·9	50·9	76·0	32·0	49·8	2·9	·287	81	5·6	9	1·85	(?)1·00	6	5	5	3	5	1	2	10	31	0	3·0
		Apr.	26·980	69·1	46·4	57·8	90·2	38·8	56·4	6·2	·294	64	4·3	8	4·95	2·04	4	6	2	8	3	3	1	8	29	0	3·0
		May	26·926	74·8	48·6	61·7	86·0	39·5	62·1	7·8	·329	59	...	2	0·88	0·79	15	5	0	2	5	7	7	12	24	0	2·8
		June	26·947	83·9	55·2	69·6	97·0	43·8	70·3	10·8	·377	51	...	0	0·00	...	...	5	0	3	3	1	2	4	41	1	2·4
(Observations taken at 8 A.M. and 7 P.M.)		July	26·876	85·4	57·1	71·3	94·1	48·4	72·3	9·5	·445	55	...	0	0·00	...	...	7	0	0	0	0	2	16	37	0	2·2
		Aug.	26·906	86·9	58·3	72·6	95·4	48·1	70·1	7·1	·475	65	...	0	0·00	...	...	12	0	0	1	1	0	14	32	2	2·2
		Sept.	26·984	83·3	54·1	68·7	96·2	45·2	64·5	5·7	·419	69	...	0	0·00	...	...	16	0	2	2	2	3	9	24	2	2·4
		Oct.	27·033	79·2	52·8	66·0	90·0	46·0	61·9	5·4	·387	70	...	2	0·02	0·01	20, 26	8	0	4	6	3	1	11	25	4	2·2
		Nov.	27·048	69·3	46·7	58·0	82·2	39·0	54·4	4·8	·298	70	...	2	1·00	0·65	26	11	5	5	3	2	2	20	9	3	2·2
		Dec.	27·053	60·9	43·0	52·0	76·9	31·6	49·4	4·2	·255	72	...	5	1·17	0·68	14	7	6	0	4	5	2	20	18	0	2·4
		1906																							
CHRISTMAS ISLAND,	18	Jan.	29·810	88·5	76·0	82·2	91·7	71·3	79·5	2·9	·858	85	8·9	11	6·41	2·55	15	0	0	2	12	4	2	16	11	15	2·4
Lat. 10° 25′ S. Long. 105° 43′ E.		Feb.	29·820	89·8	75·5	82·7	93·2	72·5	80·0	3·9	·825	81	8·8	10	4·83	1·83	25	0	0	7	24	1	2	2	0	20	1·7
W. S. Anderson, F.C.S.		Mar.	29·849	87·7	76·3	82·0	91·8	72·8	79·6	2·2	·895	89	4·6	18	10·40	1·74	7	2	0	19	1	4	8	5	6	17	2·8
		Apr.	29·826	89·0	76·3	82·7	92·0	74·5	80·0	2·3	·901	89	3·1	17	9·93	1·68	12	1	6	31	13	0	0	0	2	7	2·5
		May	29·838	87·6	75·5	81·6	90·8	73·3	78·9	2·3	·870	88	4·1	18	8·69	2·88	31	0	12	32	12	0	0	0	0	6	2·0
		June	29·856	87·5	74·6	81·1	89·1	72·2	78·3	3·0	·819	85	2·5	10	2·44	0·72	30	0	14	21	0	0	1	0	0	24	1·5
		July	29·836	86·3	74·2	80·2	88·8	71·7	77·8	2·8	·814	85	4·0	17	8·72	0·72	21	2	17	22	0	0	0	0	0	21	2·0
		Aug.	29·860	85·9	74·0	80·0	88·5	71·8	77·9	2·9	·812	84	4·5	17	8·30	1·51	1	0	6	30	6	0	0	0	0	20	1·8
		Sept.	29·838	87·3	74·7	81·0	89·7	72·2	79·2	3·9	·803	81	4·6	17	13·38	3·40	27	3	7	13	22	0	0	1	9	5	2·5
		Oct.	29·848	86·3	74·7	80·5	89·3	70·8	79·5	3·3	·839	83	3·1	21	12·42	3·05	27	0	11	27	1	1	2	0	0	20	1·5
		Nov.	29·805	85·1	73·4	79·2	89·4	71·0	77·8	2·2	·848	88	5·1	20	20·55	6·10	13	1	13	9	8	0	4	7	3	15	1·6
		Dec.	29·792	86·4	76·5	81·5	90·1	71·4	79·7	3·9	·817	80	4·5	13	6·88	1·96	4	2	6	10	9	0	5	11	7	12	1·9

Continuation of page 161.]

lands, where straw is short. Small fruit and apples a good crop. Pears and plums a failure.

Crathes:—Turnips of excellent size and good quality; have heard of no disease this season. Potatoes also good, but apparently fewer at the stems than usual. Grain crops very varied; those on light soils are extremely light, whilst others are about the average and slightly over. Strawberries have on the whole been a good crop. Gooseberries and black currants have been considerably below the average.

Buchlyvie:—Cutting down of oats began on 27th.

SEPTEMBER 1906.—Deerness:—Crops have ripened earlier than at first anticipated, owing to very fine weather. The crops are light on thin soils, on good soils nearly an average.

Dunrobin:—With the exception of some rains in the early part of the month, September was on the whole favourable for harvest operations. The latter half of the month was unusually favourable for the ingathering of crops. Potatoes promise to be a good crop. Turnips on good land look well, but a good deal of "finger-and-toe" in places.

Crathes:—The harvest was practically finished in the early part of the month, but owing to the lack of wind the crops have been keeping badly in the stacks, and in many cases they have had to be turned out again. Much of the grain is only of fair quality.

OCTOBER 1906.—Deerness:—Jaundice appeared in March, and prevailed, almost epidemic, till October. Crops generally bulk below the average. Turnips and potatoes a good crop.

Dunrobin:—A fairly good month for outdoor operations. Harvest late on the higher grounds, but mostly got in in good order. Potatoes in places not such a good crop as usual. Cattle and sheep in good condition.

NOVEMBER 1906.—Dunrobin:—Month very wet, with a good deal of windy, stormy weather.

DECEMBER 1906.—Halligarth, Balta Sound:—Diseases prevalent—Respiratory troubles. Two phthisical patients became rapidly worse, and died. Influenza of the abdominal type very common. Neuralgia, rheumatism, and tonsilitis fairly prevalent.

Dunrobin:—Snow showers came on at midday on 26th; wind, rising to blizzard-force, driving dry snow and some hail before it; lasted during 27th with unabated force; began to calm down on morning of 28th. Much drifting in some parts, and roads in exposed places blocked or impassable.

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 31st MARCH 1906.

By Dr Buchan, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 59 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N.; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1906.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %.	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
Jan.	29·692	43·9	35·1	39·5	57·5	21·5	39·9	1·8	·210	86	21	4·45	6·9	*
Feb.	29·612	41·4	30·1	35·7	51·0	10·9	35·1	1·7	·171	83	16	2·84	5·7	*
Mar.	29·912	44·9	32·3	38·6	58·4	8·6	38·4	2·2	·190	83	16	2·95	6·3	*

1906.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS.										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
Jan.	38·0	38·5	39·4	39·4	42·4	4	2	3	5	4	16	17	8	3	3·2	10	1
Feb.	34·3	36·0	37·7	37·7	41·0	7	2	3	3	4	9	13	11	4	2·8	1	1
Mar.	37·5	38·3	39·0	37·9	40·2	12	7	3	1	2	8	14	12	3	2·9	6	1

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these returns are compared with the averages of 1856–1905, during the same months, they show the following characteristics and differences :—

JANUARY 1906—

Mean Barometric Pressure, 29·692 inches; less than the average of 1856–1905 by 0·111 inch.
Mean Temperature, 39°·5 ; greater by 2°·2.
Mean Daily Range of Temperature, 8°·8 ; less by 0°·4.
Mean Humidity, 86 per cent. ; less by 1 per cent.
Rain, Number of Days, 21 ; greater by 4 days.
Rain, Depth in Inches, 4·45 ; greater by 0·61 inch.
Wind, Mean Force (on Scale of 0–12), 3·2 ; greater by 0·3.
Wind, Direction of : a 5 days' excess of winds from between S.W. and N.W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·9 ; greater by 0·2.

FEBRUARY 1906—

Mean Barometric Pressure, 29·612 inches ; less than the average of 1856–1905 by 0·234 inch.
Mean Temperature, 35°·7 ; less by 2°·5.
Mean Daily Range of Temperature, 11°·4 ; greater by 1°·2.
Mean Humidity, 83 per cent. ; less by 4 per cent.
Rain, Number of Days, 16 ; greater by 1 day.
Rain, Depth in Inches, 2·84 ; less by 0·23 inch.
Wind, Mean Force (on Scale of 0–12), 2·8 ; less by 0·1.
Wind, Direction of : a 5 days' excess of winds from N.W. and N.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 5·7 ; less by 0·8.

MARCH 1906—

Mean Barometric Pressure, 29·912 inches; greater than the average of 1856–1905 by 0·103 inch.
Mean Temperature, 38°·6; less by 1°·0.
Mean Daily Range of Temperature, 12°·6; greater by 0°·5.
Mean Humidity, 83 per cent.; less by 2 per cent.
Rain, Number of Days, 16; being the average.
Rain, Depth in Inches, 2·95; greater by 0·04 inch.
Wind, Mean Force (on Scale of 0–12), 2·9; being the average.
Wind, Direction of: a 6 days' excess of winds from N.W. and N.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·3; being the average.

JANUARY 1906—

Hence the month of JANUARY 1906 was characterised by a low mean barometric pressure; a high mean temperature, with a slightly low mean daily range; a mean humidity about the average; a rather high mean rainfall, with a large number of days with rain; a considerable excess of strong winds from a Westerly quarter. The mean barometric pressure was 29·692 inches, or 0·111 inch below the normal. The defect was greater in the East than in the West and much greater in the North than in the South, giving a well-marked gradient for South Westerly winds. Moderate depressions were rather numerous, and one on 9th was of considerable depth. From 21st to 23rd pressure was very high, with sea-level readings in the South of Scotland of over 30·5 inches. At Leith the extremes for the month were 30·572 inches on 22nd and 28·863 inches on 9th.

The mean temperature was 39°·5, or 2°·2 above the normal, the days being 2°·0 and the nights 2°·4 above their respective averages. The temperature excess was everywhere well marked, though perhaps most decided towards the South. In the North the second and third weeks were rather colder than usual, but in most districts temperature was almost continuously above the average, with a specially mild spell from 26th to 28th. Sharp ground frosts occurred between 19th and 23rd with lowest readings nearly everywhere in the early morning of 22nd. There were touches of frost also about 6th and 7th and at the very close of the month. The absolutely highest temperature was 57°·5 at Tillypronie on 27th, and the lowest, 21°·5, at Lednathie on 22nd.

The mean rainfall was 4·45 inches, or 16 per cent. above the normal. In Banffshire and parts of Aberdeenshire there was a large defect, and on part of the East Coast and in Berwickshire a moderate shortage. But elsewhere there was an excess, moderate in the South and towards the North East, but very large in Inverness-shire. Thus Fort-Augustus had all but twice its normal rainfall, and there was an aggregate of 21·71 inches at Glenquoich, of 16·19 at Fort-William, and of 15·62 at Glencarron. At Glenquoich rain fell on every day except 1st, and there were eight days with falls of 1 inch or over; whilst Fort-William had falls of more than 2 inches on 14th, 24th and 27th, as much as 2·5 inches being registered there, as at Glencarron, on 27th. At the other extreme, the aggregate of 0·70 inch at Gordon Castle was the smallest January rainfall there since 1871.

A little snow or sleet occurred about the middle of the month, fog was rather common, and moderate gales were frequent.

Thunder occurred at Deerness, Lairg, Glencarron and Tillypronie on 12th; at Fort-William on 16th; at Deerness and Monach on 17th, and on Poltalloch on 28th.

Sunshine was above the average in the extreme North, but slightly deficient in most districts.

FEBRUARY 1906—

Hence the month of FEBRUARY 1906 was characterised by a very low mean barometric pressure; a very low mean temperature, with a high mean daily range; a low mean humidity; a slightly low mean rainfall, with one less than the average number of days with rain; a large excess of winds from N.W. and N.

The mean barometric pressure was 29·612 inches, or 0·234 inch below the normal. Several considerable depressions occurred, the deepest on the 10th when the barometer at sea-level at Leith fell to 28·452 inches. At that place pressure was above 30 inches only from 4th to 7th, and from 20th to 22nd, the highest reading being 30·324 inches on 4th. The monthly range was almost the highest on record for February.

The mean temperature was 35°·7, or 2°·5 below the normal, the days being 1°·9 and the nights 3°·1 below their respective averages. The temperature deficiency, which at Fort-Augustus was as much as 4°·2, was everywhere well marked, the month being much colder than January. The month was characterised by short, sharp spells of frost alternating with milder periods. Highest readings occurred on 1st, 6th, 8th, 18th, and 21st, and lowest on 5th, 9th, 13th, and in some Southern districts on 24th. Readings of 50° were noted at only four stations, all North of the Tay, and very low individual readings were also rare considering the low mean temperature of the month. The actual lowest was 10°·9 at Balmoral on 13th, Kingussie, Fort-Augustus and Lednathie reporting readings almost as low on same date, and the highest, 51°·0, at Balruddery on 1st, and at Lairg on 21st.

The mean rainfall was 2·84 inches, or 7 per cent. below the normal. The distribution was very irregular. At some stations in Caithness and Sutherland, as at Stornoway, more than twice the average amount was recorded, and at Dunrobin the total of 5·81 inches has been equalled in February during the last forty years only by a practically identical amount in 1876. The excess, in a diminishing degree, prevailed along the Southern shores of the Moray Firth, southwards as far as Fort-Augustus and Braemar, and at most of the extreme West Coast stations. Elsewhere there was a shortage of varying amount, and parts of Forfarshire and East Lothian had barely one-third of their average rainfalls. Towards the South there were some very fine periods, whilst the heaviest general rains were from 7th to 10th, and on 24th and 25th. We note a fall of 1·73 inch at Glenquoich on 8th, and of 1·62 at Dunrobin on 25th.

Snow and hail were frequent throughout the month, snow lying at times to considerable depth in the Highlands, especially about the 9th and near the close of the month.

Gales were rather frequent, thunder occurred at Glasgow on 25th, and lightning at Fort-William on 14th and 15th.

The month was extremely sunny, Glasgow and Paisley registering fully twice the average amount of bright sunshine.

MARCH 1906—

Hence the month of MARCH 1906 was characterised by a high mean barometric pressure; a rather low mean temperature, with a slightly high mean daily range; a low mean humidity; a mean rainfall just equal to the normal, with the average number of days with rain; a large excess of winds from N.W. and N.

The mean barometric pressure was 29·912 inches, or 0·103 inch above the normal. The distribution was favourable to the predominant N.W. winds, the variations from the normal ranging from a slight defect in Shetland to an excess of 0·14 inch in the South West. From 6th to 17th the mercury was very irregular, with falls of ½ inch on 8th, and of nearly 1 inch on 11th; but from 19th onwards pressure was above 30 inches almost continuously in all districts. At Leith the sea-level extremes were 30·449 inches on 19th, and 28·929 inches on 11th.

The mean temperature was 38°·6, or 1°·0 below the normal, the days being 0°·7 and the nights 1°·2 below their respective averages. Temperature was practically the average at a few Southern stations, whilst the greatest defect was 2°·2 at Fort-William. The temperature variations were remarkable, mild weather and light winds from S.W. early in the month being followed by extreme cold and N.W. winds during the second week. Thereafter, except about 16th and at the very close of the month, low temperatures ruled with frequent winds from E. and N.E. Lowest readings were everywhere on the night of the 13th, when a temperature in the screen of 8°·6 occurred at Fort-Augustus, whilst an exposed minimum at Crathes, near Banchory, fell to 0°·9. The absolute maximum for the month was 58°·4 at Paisley on 20th, but as a rule highest readings were noted about 7th, 17th, or 30th.

The mean rainfall was 2·95 inches, or 1 per cent. above the normal. There were two well-defined areas of excess, one covering most districts North West of the Grampians, and the other extending over a fairly wide belt on either side of a line from the Firth of Forth to Islay. Elsewhere there was a deficiency of varying amount. Some very heavy falls occurred between 6th and 11th, and 14th and 17th: we note 1·42 inch at Glencarron on 6th, 1·96 at Glenquoich on 7th, 1·16 at Leadhills on 11th, and on 16th 2·91 inches at Fort-William, and falls of about 2¼ inches at Glencarron, Stronvar and Greenock. Some Western places were all but rainless from 18th onwards.

A snowstorm was general from about 10th to 15th, with slight railway blocks in the extreme North. Snow occurred also towards the end of the month.

Thunder occurred in Midlothian on 8th, at Glasgow on 9th, and at Kelso on 18th.

There were several very stormy days, whilst on 17th and 18th floods were general in consequence of melting snow and heavy rains.

Sunshine varied in amount, but was plentiful in the West.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	Jan.	29·223	...	...	...	...	...	...	...	...	40·0	...	...	...
		Feb.	29·146	...	...	...	...	...	...	...	...	37·3	...	...	...
		Mar.	29·442	...	...	...	...	...	...	...	...	36·7	...	...	...
LERWICK, (Shetland.) Capt. G. ALLISON, Harbour Master.	30	Jan.	29·483	43·4	36·9	40·2	+0·2	48·0	26, 27	32·0	8, 20	40·5	2·2	·208	82
		Feb.	29·392	41·6	33·9	37·8	−2·0	45·0	20, 21	23·0	10	37·2	1·8	·187	84
		Mar.	29·692	42·4	33·3	37·9	−1·5	48·0	7, 31	21·0	13	38·0	1·8	·194	85
DEERNESS, (Orkney.) M. SPENCE, Schoolhouse.	172	Jan.	29·375	43·3	36·6	40·0	+1·2	49·6	27	32·4	19	40·3	1·7	·215	87
		Feb.	29·287	40·4	32·8	36·6	−1·9	43·6	1	25·7	9	36·6	1·7	·185	86
		Mar.	29·630	41·9	33·2	37·6	−1·1	50·8	7	20·0	13	37·9	2·1	·188	82
KIRKWALL, (Orkney.) WILLIAM T. SINCLAIR.	30	Jan.	29·535	43·0	36·2	39·6	+0·1	53·2	27	29·0	8, 9	40·0	1·6	·215	87
		Feb.	29·454	41·4	33·0	37·2	−1·9	47·0	1	24·8	10	37·6	1·5	·196	87
		Mar.	29·790	42·8	33·2	38·0	−1·7	51·4	8	20·4	13	38·7	1·4	·206	89
DUNROBIN, (Sutherland.) D. MELVILLE, Gardener, Dunrobin Castle.	16	Jan.	29·611	43·6	34·3	39·0	+0·7	54·5	26	28·0	8	38·8	1·7	·203	86
		Feb.	29·536	41·0	30·6	35·8	−2·6	47·0	18	24·0	9	35·2	1·7	·173	84
		Mar.	29·860	45·1	32·0	38·6	−1·6	54·0	7	19·5	13	38·2	2·1	·190	83
LAIRG, (Sutherland.) Rev. JOHN K. MACLEAN, M.A.	390	Jan.	29·172	42·1	32·0	37·0	+0·7	51·5	26, 31	22·5	7	36·5	1·2	·193	89
		Feb.	29·105	40·4	27·2	33·8	−2·4	51·0	21	17·0	13	32·9	1·1	·164	87
		Mar.	29·442	45·5	29·4	37·4	−1·3	54·5	4	11·0	14	36·0	1·7	·180	85
GLENCARRON, (Ross.) D. D. MUNRO.	504	Jan.	29·080	43·7	35·2	39·4	+2·1	51·6	8	28·5	7, 8	39·3	1·8	·206	86
		Feb.	29·025	39·4	28·8	34·1	−3·0	45·0	8	18·8	24	34·4	1·8	·164	82
		Mar.	29·358	41·8	31·6	36·7	−1·6	51·1	7	13·0	14	36·6	1·7	·185	86
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	Jan.	29·442	...	...	...	...	...	...	...	...	42·4	...	...	...
		Feb.	29·424	...	...	...	...	...	...	...	...	37·6	...	...	...
		Mar.	29·774	...	...	...	...	...	...	...	...	40·3	...	...	...
KINGUSSIE, (Inverness.) Dr WALTER DE WATTEVILLE.	828	Jan.	28·763	41·2	31·6	36·4	+1·7	49·6	27	24·6	8	36·7	1·7	·186	86
		Feb.	28·689	38·5	25·2	31·8	−3·4	43·2	6	12·7	13	31·5	1·1	·151	84
		Mar.	28·994	42·1	28·1	35·1	−1·6	52·0	31	10·7	13	34·9	1·5	·173	85
INVERNESS, (Inverness.) THOS. WALLACE, High School.	114	Jan.	29·518	43·9	35·9	39·9	+1·4	52·6	26	28·0	8	39·9	1·8	·210	86
		Feb.	29·450	40·8	30·6	35·7	−3·3	47·1	1	25·0	13	35·6	1·8	·176	84
		Mar.	29·774	44·0	33·9	39·0	−1·8	51·8	7	19·2	14	38·6	2·1	·194	83
FORT AUGUSTUS, (Inverness.) Rev. CYRIL VON DIECKHOFF, St Benedict's Priory.	73	Jan.	29·570	43·7	35·1	39·4	+1·4	50·2	27	26·5	22	39·6	1·4	·215	89
		Feb.	29·514	40·3	28·7	34·5	−4·2	45·7	8	12·3	13	34·0	1·5	·166	84
		Mar.	29·839	44·4	32·4	38·4	−1·5	52·2	30	8·6	14	37·7	1·7	·193	85
FORT WILLIAM, (Inverness.) W. T. KILGOUR.	175	Jan.	...	44·2	35·9	40·1	+1·0	50·7	26	27·1	22	40·4	2·0	·211	84
		Feb.	...	40·8	30·5	35·6	−3·5	47·1	18	21·2	13	35·0	1·8	·168	82
		Mar.	...	43·9	32·5	38·2	−2·2	52·6	20	11·5	14	37·9	1·8	·193	85
GORDON CASTLE, (Banff.) C. WEBSTER, Gardener to the Duke of Richmond and Gordon.	107	Jan.	29·524	44·6	35·1	39·9	+2·0	54·0	26	29·5	8	40·4	2·6	·199	80
		Feb.	29·438	40·9	30·9	35·9	−2·4	46·0	8	23·0	9	36·0	2·3	·170	80
		Mar.	29·758	44·0	32·3	38·2	−1·9	53·0	17	18·5	14	38·8	2·7	·185	79
BALMORAL, (Aberdeen.) J. MICHIE, M.V.O., and JOHN M. TROUP.	927	Jan.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Feb.	...	37·6	25·2	31·4	−2·0	43·1	8	10·9	13	...	...	...	...
		Mar.	...	40·6	28·5	34·6	−0·9	50·0	7	10·5	10	35·0	2·2	·160	79
LOANHEAD, (Aberdeen.) ALEX. FARQUHARSON.	747	Jan.	28·848	42·3	33·0	37·7	+1·8	57·2	31	26·0	22	38·1	1·4	·202	88
		Feb.	28·755	39·2	28·0	33·6	−2·4	46·0	18	17·9	13	34·0	1·4	·168	85
		Mar.	29·054	42·3	30·0	36·2	−1·3	51·7	7	16·7	13	36·4	1·4	·189	88

SCOTLAND for the Quarter ending 31st March 1906.

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
7·7	22	...	...	...	...	6	0	0	8	15	0	7	7	0	0	5	12	14	13	9	2	4·6
8·4	22	...	...	...	...	13	0	0	0	17	5	3	10	6	0	9	8	5	7	11	0	4·8
8·4	21	...	...	...	...	10	0	0	1	17	5	4	17	17	0	0	4	8	9	7	0	4·6
...	26	4·15	...	0·55	17	2	0	0	...	...	0	7	9	0	1	0	14	16	9	11	2	4·8
...	24	5·59	...	0·68	7	8	0	0	...	...	0	3	15	3	1	4	8	7	8	10	0	5·1
...	26	3·16	...	0·30	2, 10	7	0	0	...	...	0	1	30	2	0	0	6	4	10	10	0	5·2
6·6	18	3·25	+ 0·20	0·45	17	2	2	2	1	10	0	11	4	1	1	6	12	19	16	3	0	6·2
5·9	18	3·60	+ 0·75	0·63	10	12	7	0	3	7	0	11	9	2	1	4	8	9	8	15	0	6·1
6·8	20	2·18	− 0·40	0·29	8	7	6	0	1	10	0	18	22	0	0	0	4	7	17	12	0	6·5
...	24	4·12	+ 0·17	0·42	14, 20	...	...	...	...	...	...	2	0	2	4	4	14	14	22	2	0	3·8
...	23	4·53	+ 1·12	0·72	10	...	...	...	...	...	...	3	10	0	4	2	12	6	20	2	0	4·1
...	19	2·39	− 0·94	0·88	15	...	...	...	...	...	...	5	22	2	0	4	4	4	24	0	2	3·9
...	15	2·87	+ 0·19	0·41	24	0	0	0	...	...	0	2	22	0	4	4	2	5	8	17	0	2·6
...	16	5·81	+ 3·07	1·62	25	9	0	0	...	...	0	3	11	1	0	8	4	6	3	22	1	2·4
...	12	2·41	+ 0·04	0·54	14	7	0	0	...	...	0	1	11	2	9	4	3	4	20	9	0	2·1
6·5	25	4·59	+ 1·18	0·52	27	5	0	1	1	10	1	10	3	0	3	5	5	5	28	4	9	4·1
6·0	23	5·39	+ 2·43	1·38	25	18	0	0	4	9	0	8	5	0	3	6	1	1	23	12	5	4·1
6·8	27	3·40	+ 0·54	0·75	16	14	0	0	0	8	0	4	10	2	0	3	1	0	29	13	4	3·8
7·8	28	15·62	+ 5·79	2·54	27	0	0	1	2	21	0	3	6	0	9	0	1	0	45	0	1	5·2
6·9	22	6·36	− 1·08	1·09	7	10	0	0	2	14	0	1	11	0	11	0	0	0	32	0	2	4·6
7·5	28	9·46	+ 1·69	2·56	16	4	1	0	2	18	0	2	16	0	13	0	1	0	30	0	2	4·5
8·4	28	5·09	− 0·11	0·82	12	14	1	1	0	17	3	10	3	0	1	6	6	9	22	15	0	5·4
7·0	21	4·49	+ 0·53	0·68	21	17	0	0	1	6	1	10	7	3	2	6	6	6	12	14	0	5·0
7·7	21	2·46	− 1·21	0·44	15	13	1	0	1	10	6	4	14	12	3	0	3	9	10	11	0	4·1
7·6	25	4·23	+ 1·92	0·63	27	4	0	0	0	13	...	...	...	...	...	...	...	...	...	...	...	...
6·2	11	2·28	+ 0·22	0·85	18	9	0	0	1	6	...	...	...	...	...	...	...	...	...	...	...	...
7·0	16	2·96	+ 0·96	1·00	16	3	0	0	1	8	...	...	...	...	...	...	...	...	...	...	...	...
7·4	19	3·91	+ 1·45	1·02	14	5	1	0	1	15	4	6	2	0	2	0	3	26	24	3	2	2·6
6·8	15	2·92	+ 0·88	0·60	7	11	6	0	0	8	0	5	9	1	1	0	2	19	18	6	0	2·7
7·4	19	2·32	+ 0·35	0·33	16	12	6	0	1	11	2	3	9	13	1	0	1	14	17	7	0	2·6
8·0	23	10·44	+ 5·06	1·54	14, 27	6	1	0	0	13	1	5	2	3	1	1	4	28	8	0	15	2·7
6·0	20	4·71	+ 0·87	0·70	7	11	0	0	4	7	1	2	3	5	0	1	8	16	5	2	16	2·4
6·9	23	4·83	+ 1·05	1·15	16	13	0	0	2	12	0	3	13	9	0	0	4	20	2	2	12	2·8
8·7	26	16·19	+ 6·79	2·56	27	4	1	1	0	24	1	3	0	0	6	2	3	33	10	1	7	1·5
7·2	22	5·45	− 1·44	0·73	24	14	1	0	2	12	7	0	2	3	8	0	1	17	13	3	9	1·3
7·4	19	7·81	+ 1·11	2·91	16	9	1	0	1	16	6	1	1	7	10	0	2	12	11	3	16	1·5
6·3	13	0·70	− 1·35	0·17	9	...	...	...	0	4	...	2	2	0	0	12	13	29	3	3	0	2·1
6·5	16	2·59	+ 0·63	0·66	8	...	...	...	1	11	...	0	0	0	0	6	11	18	5	16	0	2·0
7·3	18	2·61	+ 0·46	0·43	11	6	4	0	0	8	...	0	6	3	0	0	5	19	7	22	0	2·1
...	20	3·70	...	0·89	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	18	2·39	...	0·61	10	11	0	0	...	...	0	4	10	0	3	7	1	2	18	15	0	...
...	26	2·65	...	0·43	11	10	0	0	...	...	0	5	17	5	1	0	2	3	19	15	0	3·2
6·1	22	2·89	+ 0·97	0·52	2	0	0	1	1	9	0	3	0	4	0	9	0	17	12	5	15	1·5
5·9	18	2·60	+ 0·45	0·60	10	16	0	0	5	8	0	0	0	0	2	5	0	8	12	18	11	1·4
6·0	23	2·39	+ 0·15	0·47	11	3	0	0	3	7	0	4	3	7	1	1	0	13	7	25	5	1·8

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
TILLYPRONIE, (Aberdeen.)	1120	Jan.	28·438	41·7	30·5	36·1	+1·3	57·5	27	23·5	14	36·3	1·5	·186	87
ROBT. LITTLEJOHN, Gardener		Feb.	28·347	38·7	26·2	32·4	−2·6	45·5	1	18·0	9	32·0	0·9	·160	88
to Sir John F. Clark, Bt.		Mar.	28·640	41·4	28·0	34·7	−1·8	51·5	17	13·8	14	34·5	1·5	·170	84
ABERDEEN, (Aberdeen.)	44	Jan.	29·631	43·4	34·2	38·8	+1·4	56·2	26	29·0	6,11	38·9	2·1	·196	84
PETER HARPER, Superintendent, Duthie Park.		Feb.	29·540	41·2	31·0	36·1	−2·0	48·0	1	25·4	9	34·9	1·9	·165	81
		Mar.	29·824	44·7	32·4	38·6	−1·4	57·0	17	17·2	14	39·1	2·3	·194	82
PETERHEAD, (Aberdeen.)	100	Jan.	29·548	44·7	34·6	39·6	+0·7	54·0	26	29·0	17	40·8	1·3	·229	90
Dr W. H. M'WALTER,		Feb.	29·431	41·7	31·5	36·6	−2·2	47·0	1	21·9	9	36·2	2·1	·175	82
H.M. Prison.		Mar.	29·738	43·9	32·7	38·3	−2·1	...	...	20·5	13	38·6	1·3	·209	90
CRATHES, (Kincardine.)	145	Jan.	29·512	43·8	32·9	38·4	+2·0	56·0	26	25·9	9	39·1	2·5	·191	80
J. SMITH, Pinewood.		Feb.	29·424	41·9	28·2	35·0	−2·1	48·5	3	15·0	10	34·1	2·0	·157	79
		Mar.	29·723	44·7	31·6	38·1	−1·0	55·4	17	14·0	14	38·0	2·1	·188	82
MONTROSE, (Forfar.)	200	Jan.	29·464	43·3	34·6	39·0	+1·7	52·0	26	28·0	22	38·1	1·9	·193	84
(Royal Asylum),		Feb.	29·386	39·6	30·3	35·0	−2·6	46·0	1	25·0	5,24	33·8	0·9	·176	90
Dr JOHN G. HAVELOCK.		Mar.	29·672	43·5	31·9	37·7	−1·6	54·0	4	18·0	14	36·4	2·0	·178	83
ARBROATH, (Forfar.)	68	Jan.	29·626	44·5	35·4	40·0	+2·1	55·0	26	29·0	22	40·2	1·9	·211	85
JAMES CAMPBELL, "For the		Feb.	29·535	43·0	31·8	37·4	−1·1	48·0	1	27·0	5,13	36·0	2·2	·172	80
Natural History Assoc. of Arbroath."		Mar.	29·820	45·9	33·1	39·5	−1·0	56·0	17,30	20·0	14	39·2	2·6	·190	79
DUNDEE, Eastern	164	Jan.	29·511	43·2	35·0	39·1	+2·5	52·0	26	27·3	22	39·1	1·1	·217	91
Necropolis, (Forfar.)		Feb.	29·432	40·9	30·2	35·6	−2·1	47·2	1	23·7	5	34·3	1·1	·176	88
J. CARNOCHAN, Curator.		Mar.	29·730	45·1	32·8	39·0	−0·6	53·4	30, 31	18·9	14	38·0	1·8	·194	
DUNDEE, Harbour, (Forfar.)	20	Jan.	29·693	45·0	36·7	40·8	+3·0	53·5	26	31·0	22	41·0	1·5	·225	88
J. THOMPSON, Jr.,		Feb.	29·587	42·8	32·5	37·6	−1·9	49·8	21	27·2	9	36·9	2·5	·173	80
Harbour Trust.		Mar.	20·900	46·3	33·8	40·1	−1·2	54·0	28, 30	22·2	14	39·8	2·6	·195	80
LEDNATHIE, (Forfar.)	720	Jan.	28·894	41·8	31·4	36·6	+1·7	51·0	26	21·5	22	37·4	1·6	·192	86
WM. MORRISON, Gardener		Feb.	28·803	39·0	24·8	31·9	−3·3	46·0	21	12·7	13	31·8	1·7	·140	78
to Patrick Stormonth Darling.		Mar.	29·097	42·7	28·9	35·8	−1·2	53·0	30	10·0	14	36·0	2·6	·165	77
BALRUDDERY, (Forfar.)	280	Jan.	29·395	44·0	34·5	39·2	+2·3	55·0	26, 27	28·0	22	38·8	1·6	·205	87
GEORGE DAVIE, Gardener to		Feb.	29·312	42·1	30·2	36·1	−1·9	51·0	1	24·0	24	34·6	1·9	·163	81
J. Martin White.		Mar.	29·602	46·5	31·6	39·0	−1·1	54·0	30	18·0	13, 14	37·9	2·4	·183	80
PERTH, (Perth.)	105	Jan.	29·588	43·9	34·4	39·2	+1·9	53·0	26	23·5	22	39·2	1·5	·202	88
JOHN LESLIE, Gardener to		Feb.	29·505	41·5	28·7	35·1	−3·1	49·0	1	21·0	22	34·5	2·0	·156	76
Henry Coates.		Mar.	29·806	46·4	31·2	38·8	−1·0	54·5	30	12·0	14	37·9	2·3	·185	81
STRONVAR, (Perth.)	422	Jan.	29·240	43·4	33·0	38·2	+1·6	56·0	26	22·0	22	38·5	1·7	·199	86
D. L. MACKINTOSH, Gardener		Feb.	29·173	40·4	25·3	32·8	−4·1	47·0	8	15·0	13	32·7	1·5	·154	83
to James Carnegie.		Mar.	29·463	45·6	29·9	37·8	−1·0	54·0	30	14·0	13	37·6	2·5	·179	79
CLATHICK, (Perth.)	300	Jan.	29·363	44·7	34·7	39·7	+3·1	53·4	27	26·0	22	39·6	2·0	·204	84
ALEX. HENDRY.		Feb.	29·295	42·0	28·4	35·2	−2·4	50·0	6	20·2	13	34·3	2·1	·157	79
		Mar.	29·590	46·7	31·5	39·1	−0·5	56·0	6	12·2	13	38·6	2·9	·180	78
CUPAR, (Fife.)	210	Jan.	29·470	44·0	34·9	39·5	+2·4	50·0	27, 29	27·0	22	...	...	...	...
Dr TURNBULL, Fife and		Feb.	29·383	41·2	30·5	35·8	−2·1	47·0	1	24·0	5	35·1	2·0	·165	80
Kinross District Asylum.		Mar.	29·677	45·3	32·5	38·9	−1·0	54·0	30, 31	16·0	14	39·0	2·8	·185	78
DUNFERMLINE, (Fife.)	225	Jan.	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr J. MACDONALD,		Feb.	29·379	41·8	...	...	...	47·2	1,15	...	...	34·9	1·8	·167	82
High School.		Mar.	29·678	43·3	...	...	...	52·0	28	...	...	39·3	2·6	·191	80

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
7·0	20	1·99	+ 0·12	0·27	18	3	0	1	0	9	11	11	7	4	0	6	3	10	15	17	0	4·8
5·8	20	2·66	+ 0·55	0·61	11	12	0	0	2	4	1	4	14	2	1	3	4	7	8	17	0	4·3
6·6	27	3·40	+ 1·13	0·95	11	3	0	0	3	7	0	4	3	7	1	1	0	13	7	25	5	1·8
5·0	12	1·50	− 0·88	0·24	3	1	0	0	2	4	2	3	4	0	1	9	2	30	10	6	0	2·8
4·7	15	1·89	− 0·34	0·43	10	7	0	0	4	4	0	3	2	0	0	2	6	16	9	21	0	2·8
5·6	19	2·08	− 0·19	0·30	11	15	0	0	0	1	0	2	10	5	0	1	0	18	6	22	0	3·1
5·5	10	0·58	− 1·23	...	...	1	1	0	6	7	1	4	2	0	0	6	32	8	0	9	5	2·8
5·3	13	1·64	− 0·18	...	...	10	0	0	5	7	0	6	3	0	0	2	16	7	0	19	9	5·3
5·3	11	1·39	− 0·29	...	...	6	1	0	3	8	1	3	13	0	0	1	12	5	2	20	9	2·7
5·7	16	2·26	...	0·65	2	2	0	0	3	5	0	4	0	1	1	8	5	13	24	7	3	3·4
4·8	15	2·25	...	0·58	24	22	3	0	5	4	1	1	1	1	0	0	10	13	16	14	1	3·4
6·4	21	1·80	...	0·43	11	11	2	0	2	9	1	2	7	9	1	0	2	9	14	19	1	3·2
...	10	2·02	− 0·14	0·60	3	3	0	0	...	...	1	7	2	2	1	9	2	23	15	8	0	4·0
...	10	1·12	− 0·94	0·53	24	6	0	0	...	...	0	4	11	0	0	0	11	13	5	16	0	4·0
...	11	0·33	− 1·54	0·10	11	6	0	0	...	...	0	5	21	1	0	2	2	8	13	15	0	4·3
5·8	21	1·67	− 0·49	0·40	28	2	0	0	2	6	1	5	2	3	1	7	0	23	18	5	3	2·5
4·1	13	0·69	− 1·12	0·16	24	7	0	0	6	5	1	2	4	0	0	7	2	15	15	12	1	2·2
5·3	15	1·12	− 0·62	0·21	11	7	0	0	2	5	1	1	13	7	0	1	0	9	13	17	2	2·8
8·9	16	2·06	− 0·22	0·42	28	4	0	0	0	21	4	9	0	7	0	8	0	22	14	11	0	3·1
7·8	13	0·78	− 1·30	0·25	24	7	0	0	0	12	0	2	1	2	0	6	2	18	6	21	0	2·0
7·5	12	1·11	− 0·77	0·28	11	6	0	0	2	11	0	2	2	19	0	1	0	17	4	19	0	2·2
7·0	16	1·88	...	0·49	28	1	0	0	1	15	1	3	2	3	3	6	0	9	36	3	0	3·6
4·2	11	0·46	...	0·12	10	7	0	0	10	3	0	1	5	1	3	2	1	8	29	7	0	2·8
5·4	12	1·24	...	0·31	11	5	0	0	3	5	0	0	13	5	3	1	0	3	29	8	0	3·2
6·7	24	4·31	+ 0·46	1·06	2	11	0	0	0	11	1	5	4	1	0	9	1	10	19	18	0	3·2
5·0	19	1·72	− 1·48	0·45	24	18	0	0	3	5	2	5	5	0	3	1	2	3	23	19	0	3·2
5·6	16	1·61	− 1·11	0·30	10, 11	7	0	0	2	3	2	6	15	6	2	0	0	4	14	21	0	3·9
6·3	19	2·55	...	0·45	28	1	0	0	1	11	0	1	0	3	2	4	1	11	19	10	12	2·0
4·4	11	0·99	...	0·31	24	4	0	0	6	8	0	1	5	0	0	0	1	7	6	15	22	1·4
5·0	9	1·22	...	0·43	11	8	0	0	5	6	0	1	22	1	0	0	1	7	13	9	9	1·8
5·5	14	3·30	+ 0·31	0·49	28	0	0	0	5	9	2	1	2	1	6	1	0	1	34	1	16	1·5
3·9	10	1·44	− 1·14	0·50	24	2	0	0	9	5	0	0	9	2	6	1	1	2	15	4	16	0·8
4·0	10	1·92	− 0·42	0·52	16	3	0	0	12	4	0	3	16	5	1	0	0	1	18	3	18	1·2
...	26	12·96	+ 3·68	1·95	14	1	0	0	...	...	0	7	0	2	0	10	0	16	16	18	0	5·6
...	18	4·03	− 2·92	0·86	24	4	0	0	...	...	0	8	2	8	0	4	0	8	10	24	0	5·2
...	17	5·70	− 0·46	2·52	16	2	1	0	...	...	0	7	0	14	0	2	0	8	12	26	0	5·4
7·2	26	6·56	+ 1·85	1·05	14	4	0	0	1	14	1	5	7	6	13	0	0	13	14	9	0	3·8
6·0	17	3·07	− 0·40	0·69	24	12	0	0	3	8	0	3	9	16	10	2	0	2	9	7	1	3·0
6·0	13	2·60	− 0·16	0·88	16	7	0	0	3	9	0	3	8	25	5	1	0	7	12	4	0	3·4
6·2	15	3·10	+ 0·79	0·55	15	...	...	...	0	11	...	0	22	0	9	0	1	2	16	12	0	2·0
4·9	8	1·37	− 0·61	0·42	25	...	...	...	2	4	...	0	12	2	15	3	0	3	8	13	0	1·7
4·9	11	2·12	+ 0·28	0·48	15	...	...	...	0	2	...	0	17	7	5	0	0	2	13	13	0	2·1
...	...	3·08	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5·7	13	1·33	...	0·35	9	3	0	0	3	8	4	1	7	1	1	1	4	8	19	15	0	1·6
6·9	9	2·36	...	0·60	16	3	0	0	3	12	0	1	23	6	0	0	2	3	21	7	0	1·6

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
BUCHLYVIE, (Stirling.) Rev. John A. Macdonald.	125	Jan.	29·590	43·8	35·1	39·4	+2·1	51·0	28	26·0	22	40·1	1·5	·217	88
		Feb.	29·516	41·4	28·9	35·2	−2·6	47·0	1, 6	20·0	24	34·2	1·4	·170	85
		Mar.	29·798	46·3	31·3	38·8	−1·1	55·5	20	11·0	14	38·5	2·2	·190	82
HELENSBURGH, (Dumbarton.) J. R. Wilson, Waterworks.	18	Jan.	...	43·6	36·4	40·0	+1·1	51·0	22	27·0	22	...	...	...	...
		Feb.	...	40·8	30·8	35·8	−2·9	48·0	1	24·2	5	...	...	...	...
		Mar.	...	45·9	32·7	39·3	−1·2	56·0	21	15·6	14	...	...	...	...
DUMBARTON, (Dumbarton.) William Denny and Brothers.	27	Jan.	29·694	45·4	38·1	41·8	+2·6	50·5	28	29·6	1	42·3	2·4	·220	82
		Feb.	29·635	42·6	32·0	37·3	−1·9	49·0	1	23·9	24	36·5	1·5	·185	85
		Mar.	29·916	47·6	33·8	40·7	−0·4	56·1	30	18·8	14	40·3	2·5	·200	80
LOCHBUIE, (Argyll.) J. T. Mannary, Gardener to The Maclaine of Lochbuie.	20	Jan.	29·694	46·0	36·9	41·5	+0·8	49·5	27	34·0	22	42·2	1·9	·229	86
		Feb.	29·620	44·0	31·5	37·8	−2·0	49·0	1	27·0	5	36·3	1·7	·183	85
		Mar.	29·928	45·9	33·7	39·8	−1·3	50·6	31	19·5	14	39·5	2·1	·202	83
AIRDS, (Argyll.) Colonel Macfie, C.B., and Alexander M'Lachlan.	15	Jan.	29·693	47·2	35·6	41·4	+0·8	54·0	15, 28	30·0	23	42·3	2·0	·228	85
		Feb.	29·620	42·8	31·2	37·0	−3·2	50·0	8	25·0	5	37·7	1·6	·195	86
		Mar.	29·919	45·5	33·6	39·6	−1·6	54·0	7	19·0	14	40·3	1·5	·219	88
POLTALLOCH, Lochgilphead (Argyll.) D. S. Melville, Gardener.	135	Jan.	29·574	45·9	36·8	41·3	+2·2	50·0	26, 28	29·0	22	40·6	1·8	·216	86
		Feb.	29·498	43·4	31·9	37·6	−1·4	49·0	1, 8	23·0	5	35·8	1·8	·177	84
		Mar.	29·804	47·0	33·5	40·2	−0·2	53·0	17, 24	17·0	14	39·7	1·8	·209	85
ROTHESAY, Glenburn Hydropathic, (Isle of Bute.) R. Henderson and D. Penney.	76	Jan.	29·653	45·6	37·7	41·6	+2·7	52·0	28	28·0	22	41·7	2·0	·223	86
		Feb.	29·577	43·0	32·2	37·6	−2·0	47·0	1, 7	25·0	24	36·5	2·0	·179	83
		Mar.	29·875	47·2	33·9	40·6	−0·1	52·0	20	20·0	14	39·9	2·5	·198	80
GREENOCK, (Renfrew.) Daniel Macalister, C.E., Waterworks.	238	Jan.	29·468	45·2	35·9	40·5	+1·8	52·0	28	29·0	1	41·7	1·5	·232	89
		Feb.	29·404	41·8	30·7	36·2	−2·5	48·1	1	24·0	5	36·9	1·8	·185	85
		Mar.	29·684	45·6	32·9	39·2	−1·0	52·0	8, 17	19·5	14	39·8	2·7	·193	79
PAISLEY, (Renfrew.) Donald Maclean, The Coats Observatory.	107	Jan.	29·604	45·0	37·9	41·5	+2·6	51·3	26	29·9	22	41·6	2·0	·222	85
		Feb.	29·528	43·4	32·4	37·9	−1·0	48·4	17	25·0	24	36·3	1·8	·181	85
		Mar.	29·822	47·1	34·3	40·7	+0·4	58·4	20	18·0	14	40·5	2·9	·195	78
BOWHILL, (Ayr.) Alexander Gillespie, C.E.	978	Jan.	28·685	43·6	33·3	38·4	+3·1	48·5	7	27·0	1	38·4	1·3	·206	89
		Feb.	28·605	38·4	28·2	33·3	−2·2	45·0	1	24·0	4, 24	32·9	1·2	·162	86
		Mar.	28·883	42·4	29·9	36·1	−0·1	51·0	17	18·0	14	36·0	1·2	·189	89
KILMARNOCK, (Ayr.) Glenfield & Kennedy, Ltd.	74	Jan.	29·638	44·9	37·2	41·0	...	50·0	26, 28	25·5	22	42·0	1·9	·227	86
		Feb.	29·572	42·2	31·1	36·6	...	47·0	1, 28	23·0	5, 25	36·9	2·0	·182	84
		Mar.	29·867	45·6	32·9	39·2	...	54·0	20	17·0	14	39·5	2·2	·200	82
GLASGOW, Belvidere Hosp., (Lanark.) Dr John Brownlee.	54	Jan.	29·662	44·9	37·8	41·3	+2·3	50·8	27	31·5	1	42·0	2·0	·225	85
		Feb.	29·586	42·8	31·8	37·3	−2·2	49·8	1	21·8	24	36·8	2·0	·181	83
		Mar.	29·874	46·0	35·3	40·7	−0·4	53·7	20	21·4	18	40·8	2·8	·199	78
GLASGOW, Observatory, (Lanark.) Prof. Becker, F.R.S.E.	184	Jan.	29·521	44·3	37·8	41·1	+2·6	50·4	27	30·4	1	40·9	1·8	·218	86
		Feb.	29·443	41·2	32·6	36·9	−2·1	46·1	28	26·5	5	35·9	1·9	·176	83
		Mar.	29·739	44·9	34·9	39·9	−0·5	52·7	20	19·3	14	39·4	2·7	·190	79
BOTHWELL, (Lanark.) Dr John T. Wilson.	150	Jan.	...	44·6	36·4	40·5	+2·3	50·0	27	25·0	22	40·5	1·7	·217	86
		Feb.	...	42·5	30·1	36·3	−2·1	47·6	8	22·0	24	34·7	1·5	·172	85
		Mar.	...	46·2	32·6	39·4	−0·7	53·0	17, 30	18·0	14	38·6	2·2	·192	82
LEADHILLS, (Lanark.) James M'Farlane.	1300	Jan.	...	39·2	31·8	35·5	...	47·9	27	24·0	1	34·8	1·3	·176	88
		Feb.	...	36·2	25·3	30·8	−3·1	42·1	21	17·0	5	30·3	...	...	...
		Mar.	...	40·6	27·5	34·0	−1·6	50·1	16	10·0	14	33·5	1·3	·165	86

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
5·9	30	8·05	+2·41	1·02	9	1	1	0	3	7	2	5	0	2	8	1	0	14	23	9	5	5·8
4·4	21	4·13	−0·51	0·79	7	11	2	0	7	4	2	5	2	0	2	3	0	18	16	14	6	2·9
4·6	16	4·59	+0·95	2·08	16	7	0	0	5	8	0	2	5	7	6	3	0	12	14	12	3	3·0
...	28	5·58	+0·66	0·59	14	...	...	...	...	...	...	...	36	0	8	0	14	0	4	0	0	...
...	16	2·68	−1·32	0·38	13	...	...	...	...	...	...	...	36	0	14	0	4	0	2	0	0	...
...	14	3·65	+0·16	1·55	16	...	...	...	...	...	...	...	38	0	10	0	4	0	10	0	0	...
...	27	6·07	+0·75	1·02	9	...	...	...	...	...	...	...	6	4	6	6	2	3	16	14	0	1·4
...	20	4·18	−0·02	0·62	9	...	...	..	...	...	...	...	14	8	0	8	0	2	4	12	8	1·3
...	14	4·02	+0·41	1·41	16	...	...	...	...	...	...	0	10	6	6	2	2	8	6	16	6	1·5
8·0	28	10·22	...	1·18	13	7	0	0	1	18	0	6	10	0	4	6	12	14	10	4	2	4·4
4·9	23	7·41	...	1·05	10	8	1	0	3	7	0	2	16	0	4	6	4	4	16	2	4	3·4
7·1	20	5·05	...	1·20	17	6	0	0	3	14	0	3	16	6	2	0	2	16	2	8	10	3·6
8·8	22	6·08	+0·05	...	...	...	...	...	0	23	0	2	4	2	4	14	4	12	21	1	0	2·8
6·8	14	3·31	−1·25	...	...	10	0	0	3	11	0	0	18	1	9	5	10	2	10	1	0	2·8
6·9	10	2·66	−1·25	...	...	5	0	0	2	11	0	0	15	7	13	1	2	9	12	3	0	3·1
8·9	27	6·63	+1·42	0·71	16	1	1	1	0	24	0	2	2	1	0	2	1	19	10	4	23	2·9
6·2	20	5·31	+1·30	0·60	24	10	3	0	0	8	0	2	6	4	0	3	8	4	8	7	21	2·5
5·8	13	3·64	−0·04	1·20	16	3	2	0	1	8	0	1	14	7	0	0	2	11	5	5	18	2·4
7·2	27	5·27	+0·35	0·57	28	1	0	0	1	16	2	0	3	0	4	5	2	2	32	9	5	1·8
7·2	20	5·30	+1·77	0·60	24	8	2	0	5	9	1	3	3	4	2	4	6	4	16	12	5	2·0
4·7	15	4·04	+0·66	1·20	16	5	2	0	...	...	1	1	11	6	4	0	5	6	14	12	4	1·6
8·2	27	9·24	+1·34	1·29	14	1	3	0	1	16	0	10	2	3	4	4	2	24	19	4	0	4·4
6·7	21	5·20	−0·99	0·78	24	9	2	0	5	12	1	3	0	4	4	3	0	11	18	16	0	3·3
7·4	17	5·75	+1·02	2·45	16	6	0	0	0	13	0	1	5	8	3	1	0	12	15	18	0	3·4
7·7	26	5·25	+0·52	0·76	27	0	2	0	2	18	4	1	8	1	6	4	3	11	16	14	4	2·2
5·5	18	3·47	−0·24	0·72	24	7	3	0	6	6	4	0	13	0	4	0	5	4	16	6	8	1·9
5·6	12	4·67	+1·92	1·68	16	4	0	0	6	11	1	0	10	6	2	0	2	6	12	16	8	2·3
7·9	28	6·22	...	1·15	28	...	...	...	0	11	...	0	2	1	1	9	5	21	14	9	0	2·5
7·5	18	3·43	...	0·63	26	...	...	...	0	8	...	0	6	2	2	2	15	11	10	8	0	2·4
7·8	15	3·61	...	0·80	11	...	...	...	0	11	...	0	11	10	6	0	10	9	5	11	0	2·2
...	25	4·38	...	0·71	28	0	1	0	...	...	0	0	1	3	8	7	4	11	20	6	2	2·5
...	17	3·02	...	0·41	7	3	2	0	...	...	0	0	3	4	9	7	4	3	13	12	1	2·1
...	14	3·16	...	0·76	16	2	0	0	...	...	0	1	6	1	16	7	1	5	16	9	1	2·0
7·1	25	4·64	+1·04	0·71	28	0	0	1	0	9	2	3	2	1	5	0	1	2	27	5	19	1·9
6·9	17	3·01	+0·20	0·54	24	3	1	1	0	7	0	0	3	1	5	0	0	5	11	10	21	1·1
7·0	11	3·20	+0·77	1·06	16	2	0	1	0	6	0	1	3	4	8	1	0	2	23	10	11	1·4
8·4	23	4·38	+0·80	0·69	28	1	2	1	0	22	2	4	3	5	5	1	2	25	14	2	5	3·8
6·9	17	2·53	−0·47	0·42	9	8	1	0	1	11	5	0	2	4	2	2	5	15	18	4	4	2·7
7·0	10	3·21	+0·71	1·14	16	5	1	1	0	13	2	2	7	10	2	0	2	12	13	9	7	3·2
...	14	4·27	+1·50	0·76	28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	9	2·01	−0·11	0·56	24	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
...	9	3·72	+1·71	1·04	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	26	4·70	...	0·65	28	5	0	0	...	...	4	6	..	...	...	...	...	...	...	...	...	...
...	17	2·29	...	0·54	7	17	0	0	...	...	2	2	...	...	...	...	...	...	...	...	...	...
...	20	3·59	...	1·16	11	11	0	0	...	...	0	4	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. DYSON, F.R.S.	441	Jan.	29·230	43·2	36·4	39·8	+2·4	51·1	28	28·0	1	39·8	2·0	·206	84
		Feb.	29·143	41·8	31·7	36·8	−2·1	49·3	1	25·4	9	34·9	1·6	·171	88
		Mar.	29·435	44·7	33·9	39·3	−0·4	54·1	16	19·6	13	38·5	2·5	·185	80
CORSTORPHINE, (Edinburgh.) Dr T. N. JOHNSTON, F.R.S.E.	165	Jan.	29·534	44·2	35·6	39·9	+2·3	50·9	26	27·8	22	40·0	1·9	·209	85
		Feb.	29·446	42·8	30·2	36·5	−2·2	49·8	1	23·9	22	34·8	1·9	·164	82
		Mar.	29·746	45·8	33·6	39·7	−0·9	54·8	28	17·4	14	38·7	2·5	·188	81
LEITH, (Edinburgh.) JAMES BOLAM, Nautical College, and GEORGE REDPATH.	76	Jan.	29·627	44·6	37·9	41·3	+2·4	51·1	26, 27	29·7	1	41·3	2·0	·219	84
		Feb.	29·543	42·4	33·1	37·8	−1·9	47·0	18	26·8	24	36·2	2·0	·177	83
		Mar.	29·836	46·0	35·7	40·8	−0·9	54·5	30	22·0	14	40·2	2·8	·194	78
DALKEITH, (Edinburgh.) J. WHYTOCK, Gardener to the Duke of Buccleuch.	190	Jan.	29·508	43·8	35·8	39·8	+2·5	51·5	28	28·5	22	40·4	1·7	·216	87
		Feb.	29·416	41·7	30·8	36·2	−1·8	46·0	1	25·0	5	35·7	1·8	·177	85
		Mar.	29·711	45·3	33·7	39·5	−1·1	55·0	16	16·0	14	39·7	2·9	·189	77
SMEATON, (Haddington.) JOHN BLACK, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Jan.	29·586	44·8	35·7	40·2	+2·5	52·0	27, 29	29·0	22	40·0	1·8	·211	86
		Feb.	29·516	41·8	30·1	35·9	−2·3	49·0	1	25·0	24	34·3	1·8	·163	82
		Mar.	29·814	46·7	33·4	40·0	−1·0	57·0	30	18·0	14	38·9	2·1	·196	84
HADDINGTON, (Haddington.) D. MACRAE, Superintendent, District Asylum.	...	Jan.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Feb.	...	42·9	30·2	36·6	−1·8	48·0	1, 18	21·5	25	35·5	...	...	...
		Mar.	29·659	46·0	32·1	39·0	−0·8	55·0	16	17·0	14	39·0	...	...	...
MARCHMONT, (Berwick.) JOHN A. WOOD, Gardener.	500	Jan.	...	43·5	33·5	38·5	+1·7	52·0	28	24·0	1	38·9	1·7	·204	87
		Feb.	...	41·8	28·5	35·1	−2·4	45·0	1, 21	22·0	24	34·3	1·7	·165	83
		Mar.	...	45·4	31·3	38·4	−0·5	53·0	17	15·0	13	38·0	2·3	·185	81
DUNS CASTLE, (Berwick.) JAMES REDPATH, Gardener to F. S. Hay.	500	Jan.	29·186	43·7	33·4	38·6	+1·7	53·0	28	27·0	20	38·8	1·5	·207	88
		Feb.	29·088	41·6	28·5	35·0	−2·8	46·0	1, 21	22·0	24	34·1	1·8	·161	81
		Mar.	29·361	44·9	31·9	38·4	−0·8	54·0	17	16·0	13	37·8	2·4	·182	80
BROOMLANDS, (Roxburgh.) JAMES BRUNTON.	205	Jan.	29·521	44·7	34·7	39·7	+2·5	54·0	26, 27	26·0	22	40·0	1·7	·213	86
		Feb.	29·419	43·2	29·3	36·2	−1·9	47·0	1, 18	23·0	5, 24	34·9	1·3	·177	88
		Mar.	29·701	45·6	32·0	38·8	−0·9	57·0	6	13·0	14	38·8	1·4	·209	89
WOLFELEE, (Roxburgh.) ARTHUR HUME, Gardener to J. T. S. Elliot.	537	Jan.	29·160	42·8	34·9	38·8	+3·2	51·0	27	25·0	22	38·7	1·3	·210	90
		Feb.	29·053	40·5	28·9	34·7	−1·9	46·0	1	20·0	5	32·6	1·0	·165	88
		Mar.	29·329	45·0	31·6	38·3	−0·2	53·0	17	11·0	14	36·5	...	...	...
DRUMLANRIG, (Dumfries.) DAVID INGLIS, Gardener to the Duke of Buccleuch.	191	Jan.	29·548	44·7	34·9	39·8	+2·2	53·0	27	25·0	22	39·8	1·6	·213	88
		Feb.	29·462	42·2	28·4	35·3	−2·7	48·0	1, 7	15·0	24	33·9	1·4	·167	85
		Mar.	29·737	46·1	32·9	39·5	−0·2	53·0	6	13·0	14	38·9	2·3	·193	83
DUMFRIES, (Dumfries.) Rev. WILLIAM ANDSON.	60	Jan.	29·704	45·2	36·7	41·0	+1·7	52·5	27	27·0	22	41·0	1·7	·221	86
		Feb.	29·604	43·3	30·8	37·0	−2·1	49·0	7	22·0	24	36·2	1·6	·184	86
		Mar.	29·887	47·5	34·8	41·1	0·0	56·0	28	18·0	14	41·3	2·9	·202	78
CARGEN, (Kirkcudbright.) ALEX. PEACOCK, Gardener to Colonel Dudgeon.	85	Jan.	29·685	45·6	36·7	41·2	+2·9	52·0	26, 27	28·0	22	40·6	1·8	·216	85
		Feb.	29·583	43·5	31·6	37·5	−1·6	47·0	18	22·0	24	36·1	1·5	·185	86
		Mar.	29·866	47·1	33·9	40·5	−0·2	54·0	16	17·0	14	41·0	2·2	·203	82
CALLY, (Kirkcudbright.) WM. THOMSON.	120	Jan.	29·642	44·4	37·2	40·8	+2·1	48·0	28	24·8	22	41·3	1·7	·225	87
		Feb.	29·542	42·7	31·2	37·0	−2·0	46·7	15	14·7	5	38·1	1·6	·198	86
		Mar.	29·839	46·9	...	...	...	52·0	21, 29	...	...	41·5	2·0	·221	85

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
6·0	16	3·11	+1·21	0·87	28	2	0	0	2	6	3	7	2	2	0	7	9	20	17	4	1	4·3
4·4	12	1·01	-0·64	0·26	19	6	0	0	4	4	0	3	2	0	0	3	7	13	19	10	2	3·8
6·2	15	1·97	+0·50	0·57	11	5	1	1	1	5	1	5	14	5	1	1	4	9	18	8	2	4·3
5·1	24	3·19	...	0·87	28	1	0	0	4	4	0	1	6	1	5	2	2	3	34	3	6	2·5
5·0	15	1·05	...	0·19	7	5	0	0	6	8	1	0	11	0	4	0	2	2	20	9	8	1·8
4·7	17	2·39	...	0·63	11	8	3	2	6	7	0	0	10	3	7	0	0	2	25	8	7	2·2
6·6	18	2·69	+0·70	0·81	28	0	1	0	3	13	0	4	6	2	4	2	10	14	24	0	0	4·4
5·6	14	0·80	-0·97	0·15	24	6	2	0	8	12	0	1	2	0	2	6	4	14	20	6	2	3·7
6·1	15	1·90	+0·24	0·49	11	6	5	1	7	14	1	2	10	6	2	0	0	12	20	8	4	4·3
6·0	12	2·98	...	0·84	28	1	0	0	2	8	3	4	4	3	1	3	5	24	17	5	0	2·2
5·0	12	0·79	...	0·29	24	6	1	0	4	6	0	0	4	1	0	3	2	12	22	12	0	1·4
5·9	9	2·18	...	0·74	11	6	0	0	2	10	0	3	3	6	4	0	0	13	20	16	0	1·3
...	9	1·83	+0·03	0·43	28	0	0	0	...	...	1	10	5	1	2	7	8	23	15	1	0	1·6
..	7	0·49	-1·08	0·18	20	2	0	0	...	...	0	4	9	0	3	0	4	18	14	8	0	1·3
...	10	1·67	+0·12	0·74	11	5	0	0	...	...	0	9	14	8	3	1	1	10	21	4	0	1·6
...	17	1·97	...	0·61	28	...	...	...	...	...	...	...	2	10	0	3	0	9	11	26	1	3·2
...	7	0·66	...	0·27	19	4	0	0	...	...	0	2	3	2	2	2	0	3	8	36	0	1·4
...	13	2·32	...	0·55	11	5	3	0	...	...	0	5	6	10	6	0	0	1	16	23	0	1·8
5·6	15	2·31	-0·23	0·61	28	0	0	0	2	7	0	10	2	1	6	3	4	8	36	2	0	4·8
4·0	7	0·95	-1·38	0·22	7	3	0	0	7	3	0	7	9	3	6	2	5	6	21	4	0	4·0
6·1	14	2·31	-0·09	0·61	11	4	0	0	2	8	0	5	22	0	5	0	3	7	17	8	0	4·6
6·1	15	2·17	-0·29	0·52	28	1	0	0	4	9	0	1	1	3	1	6	1	20	14	16	0	1·8
4·2	13	1·08	-1·17	0·30	7	5	0	0	11	7	1	0	8	2	0	5	0	9	14	18	0	1·3
6·8	19	2·30	+0·04	0·59	11	5	0	0	4	15	0	0	9	9	0	0	1	7	12	24	0	1·2
6·7	17	1·76	-0·22	0·52	28	1	0	0	0	6	0	4	0	3	5	5	0	40	7	0	2	4·7
5·5	17	1·03	-0·74	0·15	19	4	0	0	1	3	0	2	3	2	2	0	0	26	18	5	0	4·2
4·8	15	1·75	-0·12	0·35	11	2	0	1	0	7	0	0	2	9	13	0	1	21	12	2	2	3·8
7·0	21	2·75	-1·28	0·33	28	1	0	0	0	8	1	4	7	3	0	2	3	26	19	2	0	2·8
5·0	17	1·88	-1·19	0·41	24	10	3	0	5	6	1	0	4	1	2	0	6	20	9	14	0	1·7
7·1	17	1·86	-1·19	0·40	11	11	3	0	2	9	0	0	7	17	1	0	1	12	15	9	0	1·8
...	28	5·37	+0·18	0·70	9	0	0	0	...	...	0	3	2	4	0	6	2	30	1	17	0	...
...	16	3·32	-0·74	0·63	24	5	0	0	...	...	0	0	11	0	0	2	3	20	2	18	0	...
...	14	3·21	+0·29	0·48	8	2	0	0	...	...	0	1	19	4	0	0	0	18	0	21	0	...
...	24	3·82	+0·32	0·64	28	0	0	0	...	...	1	2	0	2	5	6	0	24	13	12	0	3·4
...	18	2·25	-0·73	0·35	15	5	0	0	...	...	0	0	1	3	3	4	1	9	12	20	3	2·9
...	14	2·53	-0·01	0·52	10	4	1	0	...	...	0	0	12	6	1	3	2	8	11	18	1	3·1
6·6	24	4·84	+0·14	0·92	28	0	1	0	0	4	0	0	3	3	5	5	1	14	23	8	0	2·2
5·0	11	2·53	-1·25	0·50	15	4	0	0	0	2	0	0	9	3	3	0	2	3	15	21	0	2·0
6·1	12	2·49	-0·73	0·52	10	1	0	0	0	5	0	0	9	6	14	1	4	9	17	2	0	2·0
...	24	5·52	+0·68	0·83	3	0	1	0	...	...	0	3	1	10	2	8	2	16	3	20	0	2·6
...	19	3·13	-1·02	0·39	25, 28	6	3	0	...	...	1	0	1	25	1	10	0	5	3	11	0	2·1
...	15	3·14	-0·57	0·38	14	6	1	0	...	...	0	1	10	12	1	2	0	9	3	24	1	2·5

BRIGHT SUNSHINE.

STATIONS.		1906.	SUNSHINE.		
		Months.	Total Observed.	Difference from Average.	Percentage of Possible.
			hours.	hours.	%
DEERNESS,	(Orkney.)	Jan.	40·2	+12·9	19
		Feb.	83·9	+29·5	33
		Mar.	97·4	− 6·7	27
INVERNESS,	(Inverness.)	Jan.	48·3	+ 3·8	22
		Feb.	85·3	+20·3	33
		Mar.	108·8	+15·8	29
FORT AUGUSTUS,	(Inverness.)	Jan.	7·5	− 9·6	3
		Feb.	58·6	+16·9	23
		Mar.	67·6	−10·0	19
CRATHES,	(Kincardine.)	Jan.	58·3	...	26
		Feb.	117·5	...	45
		Mar.	104·7	...	29
BALRUDDERY,	(Forfar.)	Jan.	43·9	...	19
		Feb.	112·6	...	43
		Mar.	141·7	...	39
OBAN,	(Argyll.)	Jan.	23·6	...	10
		Feb.	83·3	...	32
		Mar.	126·4	...	35
PAISLEY,	(Renfrew.)	Jan.	25·5	− 9·1	11
		Feb.	105·2	+53·8	40
		Mar.	128·1	+23·8	36
GLASGOW,	(Lanark.)	Jan.	22·6	− 0·1	10
		Feb.	91·1	+47·8	35
		Mar.	115·1	+30·8	32
EDINBURGH,	(Edinburgh.)	Jan.	36·8	− 4·0	16
		Feb.	118·2	+51·2	44
		Mar.	104·7	− 2·8	29
DUNS CASTLE,	(Berwick.)	Jan.	38·2	...	16
		Feb.	127·0	...	48
		Mar.	117·2	...	32
MARCHMONT,	(Berwick.)	Jan.	29·7	−14·9	18
		Feb.	107·7	+42·3	41
		Mar.	117·0	+ 9·1	32

UNDERGROUND TEMPERATURE.

STATIONS.		**1906.**	**UNDERGROUND TEMPERATURE.**				
		Months.	**Depth in Inches.**				
			8	**12**	**22**	**36**	**48**
			°	°	°	°	°
DUNROBIN,	**(Sutherland.)**	**Jan.**	**36·6**	**38·9**	**39·1**	...	...
		Feb.	**33·7**	**37·1**	**37·6**	...	...
		Mar.	**36·5**	**39·8**	**39·6**	...	...
ARBROATH,	**(Forfar.)**	**Jan.**	**33·4**	**37·2**	**37·6**	...	...
		Feb.	**33·5**	**34·9**	**36·7**	...	...
		Mar.	**36·5**	**36·3**	**37·4**	...	...
POLTALLOCH,	**(Argyll.)**	**Jan.**	**39·9**	**40·2**	**41·8**	...	...
		Feb.	**36·9**	**37·7**	**39·6**	...	...
		Mar.	**39·6**	**40·2**	**40 7**	...	...
ROTHESAY,	**(Bute.)**	**Jan.**	...	...	...	...	**43·2**
		Feb.	...	...	...	...	**42·0**
		Mar.	...	...	...	...	**41·0**
PAISLEY,	**(Renfrew.)**	**Jan.**	**40·4**	**40·4**	**42·1**	...	...
		Feb.	**36·3**	**37·4**	**40·7**	...	...
		Mar.	**39·2**	**39·4**	**41·8**	...	...
CORSTORPHINE,	**(Edinburgh.)**	**Jan.**	**37·3**	**38·0**	**39·0**	**39·4**	**41·5**
		Feb.	**33·6**	**35·8**	**36·8**	**37·7**	**39·9**
		Mar.	**37·3**	**38·2**	**38·2**	**37·9**	**39·4**
SMEATON,	**(Haddington.)**	**Jan.**	**37·0**	**37·9**	**37·6**	...	...
		Feb.	**32·8**	**34·5**	**35·8**	...	...
		Mar.	**36·7**	**37·0**	**37·6**	...	...
MARCHMONT,	**(Berwick.)**	**Jan.**	**36·5**	**37·1**	**38·6**	...	...
		Feb.	**33·2**	**34·6**	**36·8**	...	...
		Mar.	**36·7**	**37·3**	**38·5**	...	...

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 30th JUNE 1906.

By Dr Buchan, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 59 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N. ; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1906.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %.	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
April	30·025	52·5	34·0	43·3	72·0	20·0	42·8	3·3	·208	76	12	1·77	5·0	*
May	29·305	53·4	40·4	46·9	73·0	22·0	46·6	2·4	·262	83	22	5·09	7·7	*
June	30·100	64·4	47·1	55·8	82·7	32·0	55·6	3·4	·349	78	11	1·39	6·2	*

1906.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS.										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
April	43·1	44·2	43·9	41·6	42·7	5	5	6	4	6	8	13	8	5	2·4	5	1
May	48·0	48·0	47·6	45·2	45·5	6	8	10	6	6	9	8	6	3	2·5	37	2
June	57·5	57·0	56·0	52·1	50·9	6	6	9	4	4	7	13	7	4	2·2	6	2

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these returns are compared with the averages of 1856–1905, during the same months, they show the following characteristics and differences :—

APRIL 1906—

Mean Barometric Pressure, 30·025 inches ; greater than the average of 1856–1905 by 0·142 inch.
Mean Temperature, 43°·3 ; less by 0°·8.
Mean Daily Range of Temperature, 18°·5 ; greater by 4°·0.
Mean Humidity, 76 per cent. ; less by 6 per cent.
Rain, Number of Days, 12 ; less by 3 days.
Rain, Depth in Inches, 1·77 ; less by 0·50 inch.
Wind, Mean Force (on Scale of 0–12), 2·4 ; less by 0·3.
Wind, Direction of : a 3 days' excess of winds from W. or N.W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 5·0 ; less by 1·2.

MAY 1906—

Mean Barometric Pressure, 29·805 inches ; less than the average of 1856–1905 by 0·139 inch.
Mean Temperature, 46°·9 ; less by 2°·1.
Mean Daily Range of Temperature, 13°·0 ; less by 2°·5.
Mean Humidity, 83 per cent. ; greater by 4 per cent.
Rain, Number of Days, 22 ; greater by 9 days.
Rain, Depth in Inches, 5·09 ; greater by 2·80 inches.
Wind, Mean Force (on Scale of 0–12), 2·5 ; being the average.
Wind, Direction of : 1 day less from W. than usual.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·7 ; greater by 1·5.

JUNE 1906—

Mean Barometric Pressure, 30·100 inches; greater than the average of 1856–1905 by 0·154 inch.
Mean Temperature, 55°·8; greater by 0°·9.
Mean Daily Range of Temperature, 17°·3; greater by 1°·5.
Mean Humidity, 78 per cent.; less by 2 per cent.
Rain, Number of Days, 11; less by 2 days.
Rain, Depth in Inches, 1·39; less by 1·13 inch.
Wind, Mean Force (on Scale of 0–12), 2·2; less by 0·2.
Wind, Direction of: a 3 days' deficiency of winds from S. and a proportionate excess from N.E. and from W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·2; being the average.

APRIL 1906—

Hence the month of APRIL 1906 was characterised by a high mean barometric pressure; a mean temperature a little below the average, but with a very high mean daily range; a very low mean humidity; a low mean rainfall, with fewer days with rain than the average; and fewer Easterly winds than usual.

The mean barometric pressure was 30·025 inches, or 0·142 inch above the normal. During the first half of the month the barometer remained continuously high, and at Leith on 8th reached 30·713 inches, which appears to be the highest April reading on record for that place. After the 16th pressure fluctuated greatly, and towards the end of the month a succession of depressions crossed the country from North to South. At Leith the lowest reading was 29·161 on 29th, giving a monthly range approaching twice the average.

The mean temperature was 43°·3, or 0°·8 below the normal, and with days 1°·2 above and nights 2°·8 below their respective averages, the mean daily range was much higher than usual. Edinburgh and one or two other places had temperatures slightly above the normal. During the first half of the month, brilliant sunshine gave high day temperatures, but the nights were cold; but after the 15th the weather was continuously cold, with very low readings around the 19th. The maximum for the month was 72°·0 at Clathick on 9th, and the lowest 20°·0, which was registered at Lednathie on 4th, and at Stronvar and Leadhills on 19th.

The mean rainfall was 1·77 inch, or 22 per cent. below the normal. Towards the North and North West there was an excess as a rule, amounting to 41 per cent. at Glencarron; but to the East and South of the Grampians there was a decided shortage, several stations such as Perth, Dumbarton, Leith and Dumfries having only half, or less than half, their normal amounts. Many places were rainless, or all but so, up till 15th, and at some of these, as Clathick and Greenock, there was a practically continuous drought from March 18th. From 15th onwards rain was frequent, with heaviest falls around 16th and 20th. We may note the following:—at Glencarron 1·71 inch on 20th and 1·06 on 15th; at Glenquoich 1·25 on 20th, and 1·20 on 15th; and at Lochbuie (Mull) 1·20 on 28th and 1·10 on 15th.

The month was an exceedingly sunny one, especially during the first half, Crathes averaging nearly 8 hours a day of "bright sunshine." From 15th onwards the weather was very changeable, and often of a wintry character, with frequent falls of snow and sleet.

Thunder was reported at Lairg and Glencarron on 21st, and a thunderstorm at Stronvar, Buchlyvie and Drumlanrig on 30th.

MAY 1906—

Hence the month of MAY 1906 was characterised by a very low mean barometric pressure; a low mean temperature, with a very low mean daily range; a high mean humidity; an abnormally high mean rainfall, with a very large number of days with rain; winds of about average distribution.

The mean barometric pressure was 29·805 inches, or 0·139 inch below the normal. The mercury seldom reached 30 inches, and was lowest on 2nd and between 14th and 17th, but depressions though rather numerous were not deep. At Leith the sea-level extremes were 30·156 inches on 14th and 29·400 on 2nd.

The mean temperature was 46°·9, or 2°·1 below the normal, the days being 3°·3 and the nights 0°·8 below their respective averages. Highest temperatures occurred about 7th, 13th or between 26th and 30th, but there were no spells of warm weather, the days being as a rule very cold, with cloudy skies. Quite wintry weather occurred at times, especially during the third week, though the actual minima at most places were on 1st or 2nd. The lowest reading recorded was 22°·0 at Lednathie on 1st, whilst Balmoral reported 23°·0 on 11th, with an exposed reading of 20°·0. Dumfries was the only station with a reading over 70°·0, its maximum being 73°·0 on 13th.

The mean rainfall was 5·09 inches, or 122 per cent. above the normal. In Eastern districts generally, rainfall was much the heaviest for May since observations

[*Continued on page* 190.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
NORTH UNST, (Shetland.)	280	Apr.	29·646	...	...	...	...	...	...	...	...	41·7	...	...	...
Principal Keeper of the		May	29·551	...	...	...	...	...	...	...	...	42·9	...	...	...
Lighthouse.		June	29·781	...	...	...	...	...	...	...	...	49·4	...	...	...
LERWICK, (Shetland.)	30	Apr.	29·868	46·5	38·3	42·4	−0·2	52·0	11	30·0	19	42·2	2·6	·216	81
Capt. G. ALLISON,		May	29·768	48·2	41·0	44·6	−1·5	55·0	26	35·0	22	44·4	2·2	·244	84
Harbour Master.		June	29·991	56·1	46·7	51·4	+0·8	61·0	2, 21	39·0	30	50·7	2·0	·320	87
DEERNESS, (Orkney.)	172	Apr.	29·755	46·5	36·0	41·3	−0·9	54·0	18	29·2	19	41·6	2·4	·214	82
M. SPENCE, Schoolhouse.		May	29·621	48·1	39·8	44·0	−2·7	56·0	7	34·2	10	44·0	1·9	·246	85
		June	29·891	55·1	46·1	50·6	−0·2	64·0	19	41·0	29	50·6	1·7	·326	88
KIRKWALL, (Orkney.)	30	Apr.	29·923	48·2	35·6	41·9	−1·6	55·6	14	25·4	19	42·0	2·4	·218	82
WILLIAM T. SINCLAIR.		May	29·784	49·9	39·7	44·8	−3·2	60·0	8	33·0	2	45·0	1·8	·257	86
		June	30·045	58·4	46·6	52·5	−0·4	71·5	21	40·6	29	52·0	2·0	·335	86
DUNROBIN, (Sutherland.)	16	Apr.	29·972	49·5	35·5	42·5	−1·7	60·0	9	29·5	24	42·7	2·7	·218	80
D. MELVILLE, Gardener,		May	29·786	51·0	39·3	45·1	−3·3	59·0	6, 7	31·5	11	45·6	2·4	·252	82
Dunrobin Castle.		June	30·069	60·8	47·9	54·4	+1·3	70·0	21	34·0	29	54·0	3·3	·329	78
LAIRG, (Sutherland.)	390	Apr.	29·532	52·1	30·8	41·4	−2·6	67·0	9	21·0	20	41·2	2·8	·203	79
Rev. JOHN K. MACLEAN,		May	29·384	52·6	37·8	45·2	−2·6	62·8	7, 13	25·0	2	45·2	2·4	·245	82
M.A.		June	29·657	65·5	44·6	55·0	+0·9	77·4	11	34·4	29	54·0	3·0	·334	80
GLENCARRON, (Ross.)	504	Apr.	29·442	48·6	33·6	41·1	−1·6	62·2	10	23·0	19	40·8	2·9	·198	78
D. D. MUNRO.		May	29·253	49·9	38·3	44·1	−3·6	58·6	26	29·7	2	45·1	2·8	·238	79
		June	29·552	61·7	46·6	54·2	+1·2	73·1	18	35·0	29	53·4	3·4	·317	78
MONACH, (Hebrides.)	150	Apr.	29·840	...	...	...	...	...	...	...	...	43·5	...	...	...
Principal Keeper of the		May	29·648	...	...	...	...	...	...	...	...	45·5	...	...	...
Lighthouse.		June	29·939	...	...	...	...	...	...	...	...	53·1	...	...	...
KINGUSSIE, (Inverness.)	828	Apr.	29·103	51·5	30·5	41·0	−0·5	67·0	11	23·0	19	40·7	3·3	·190	75
Dr WALTER DE WATTEVILLE.		May	28·910	51·6	37·3	44·5	−2·4	63·2	27	25·0	1	45·2	2·8	·239	80
		June	29·200	65·2	45·4	55·3	+1·4	77·4	10	34·0	5	55·6	4·1	·332	75
INVERNESS, (Inverness.)	114	Apr.	29·871	51·4	36·6	44·0	−1·3	69·1	10	27·5	19	43·8	3·5	·213	74
THOS. WALLACE,		May	29·686	51·4	41·1	46·3	−2·9	60·0	6	31·8	11	46·7	2·5	·261	81
High School.		June	29·975	61·7	49·4	55·6	+0·9	72·2	19	39·6	5, 29	55·9	3·6	·349	78
FORT AUGUSTUS, (Inver-	73	Apr.	29·932	51·5	34·1	42·8	−1·6	67·5	10	24·6	19	42·1	2·5	·217	81
ness.) Rev. CYRIL VON DIECK-		May	29·720	51·2	40·6	45·9	−3·8	57·0	6	28·4	11	46·3	2·1	·265	84
HOFF, St Benedict's Priory.		June	30 026	62·6	48·4	55·5	+0·1	77·8	11	33·8	4	55·5	3·5	·344	78
FORT WILLIAM, (Inverness.)	175	Apr.	...	51·1	34·7	42·9	−2·1	64·5	11	24·5	19	42·2	2·6	·216	81
W. T. KILGOUR.		May	...	52·6	40·5	46·6	−3·3	62·7	13	29·9	2	46·8	2·3	·266	84
		June	...	64·0	47·5	55·8	+0·4	71·0	11, 18	36·9	4	54·9	2·9	·350	81
GORDON CASTLE, (Banff.)	107	Apr.	29·870	52·0	33·8	42·9	−1·5	63·0	9	27·0	25	43·7	4·4	·196	69
C. WEBSTER, Gardener to		May	29·673	53·4	39·5	46·4	−2·4	66·0	6	29·5	1	47·1	2·9	·256	79
the Duke of Richmond		June	29·972	63·9	47·4	55·7	+1·1	73·5	10	39·5	1, 29	55·9	3·9	·341	76
and Gordon.															
BALMORAL, (Aberdeen.)	927	Apr.	...	50·2	30·0	40·1	−0·6	68·5	9	21·0	19	39 6	3·4	·180	73
J. MICHIE, M.V.O., and		May	...	50·5	36·6	43·6	−2·4	62·0	6	23·0	11	44·3	2·3	·241	82
JOHN M. TROUP.		June	...	63·5	45·3	54·4	+0·8	74·8	11	32·5	16	54·8	4·0	·323	75
LOANHEAD, (Aberdeen.)	747	Apr.	29·193	53·3	32·8	43·0	+0·5	70·3	9	24·0	30	42·7	3·5	·204	74
ALEX. FARQUHARSON.		May	28·994	52·5	38·0	45·2	−2·1	60·4	29	25·8	11	45·8	1·7	·269	88
		June	29·292	64·6	46·1	55·4	+1·7	77·4	11	37·0	29	55·6	3·4	·349	78

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
7·0	18	...	...	...	...	6	0	0	2	10	0	5	9	5	8	3	9	10	10	2	4	3·7
8·5	13	...	...	...	...	0	0	0	1	18	9	3	10	16	12	6	7	4	5	2	0	3·8
7·8	7	...	...	...	...	0	0	0	0	14	11	0	10	6	1	2	1	13	13	8	6	2·8
...	18	2·57	...	0·42	17	2	0	0	...	...	0	5	9	0	3	1	21	10	8	6	2	4·3
...	25	3·45	...	0·85	16	0	0	0	...	...	4	0	11	10	13	2	16	2	2	4	2	4·0
...	13	1·26	...	0·35	24	0	0	0	...	...	4	0	19	4	5	0	8	5	6	5	8	2·9
4·8	13	2·19	+ 0·24	0·55	20	6	5	0	7	6	1	3	5	2	2	6	15	8	13	9	0	5·0
8·2	23	3·02	+ 1·29	0·53	16	0	1	0	1	18	9	5	17	6	13	6	11	1	3	5	0	5·0
7·7	12	1·03	− 0·81	0·20	24	0	1	0	2	18	10	2	9	3	3	7	8	6	7	17	0	4·4
...	15	2·29	+ 0·15	0·36	20	...	...	...	...	...	...	0	2	4	4	0	20	14	8	8	0	3·5
...	23	2·58	+ 0·79	0·50	16	...	...	...	...	...	...	2	10	16	8	2	10	8	6	2	0	3·8
...	11	0·75	− 0·91	0·18	27	...	...	...	...	...	...	2	12	2	0	2	16	2	22	4	0	4·5
...	12	2·18	+ 0·26	0·35	21	2	0	0	...	...	2	0	11	0	6	6	6	1	17	10	3	1·8
...	18	4·50	+ 2·61	0·85	24	0	0	0	...	...	1	0	6	6	19	11	7	4	2	5	2	2·0
...	7	0·53	− 1·46	0·11	21, 30	0	0	0	...	...	0	0	6	0	13	14	7	1	6	12	1	1·7
6·5	19	2·80	+ 0·58	0·42	20	4	2	1	5	14	1	1	8	1	3	3	2	2	23	9	9	2·6
7·8	30	3·64	+ 1·49	0·62	24	2	2	2	0	16	0	6	4	7	10	11	4	5	6	9	6	3·4
5·8	12	1·03	− 1·18	0·24	29	0	0	0	1	5	0	0	5	2	8	4	3	3	13	10	12	2·9
6·2	21	7·26	+ 2·13	1·71	20	3	2	1	3	11	0	0	10	0	11	0	5	0	34	0	0	3·8
8·3	24	5·95	+ 1·47	0·67	17	0	1	1	1	20	0	1	12	0	30	0	0	0	20	0	0	3·9
7·0	16	2·71	− 1·36	0·88	27	0	0	0	0	13	2	0	13	0	18	0	0	0	29	0	0	3·7
6·2	20	3·51	+ 0·93	0·40	5	8	0	0	2	8	1	0	7	7	2	0	14	5	16	9	0	4·2
6·5	19	2·32	+ 0·21	0·48	7	0	0	0	2	12	7	2	12	13	10	5	7	9	1	4	1	3·5
7·7	11	1·26	− 0·85	0·18	21	0	0	0	0	13	11	0	9	12	2	4	4	13	11	5	0	2·8
6·0	14	2·11	+ 0·19	0·40	16	6	0	0	6	10	...	...	...	...	...	...	...	...	...	...	...	...
8·3	22	3·50	+ 1·78	0·74	16	1	0	0	0	18	...	...	...	...	...	...	...	...	...	...	...	...
6·2	13	0·90	− 1·08	0·38	22	0	0	0	0	6	...	...	...	...	...	...	...	...	...	...	...	...
5·8	14	1·83	+ 0·35	0·51	19	5	7	0	6	7	4	2	4	8	5	0	0	16	22	5	0	1·8
8·8	24	3·43	+ 1·63	0·55	8	1	1	2	0	22	2	0	6	18	13	0	0	10	9	5	1	1·8
7·2	9	0·97	− 0·90	0·36	30	0	0	0	1	13	2	0	4	19	6	0	1	10	11	9	0	1·8
4·8	16	2·54	+ 0·24	0·78	20	7	1	0	4	6	1	1	1	9	0	2	9	19	0	2	18	2·3
7·0	22	2·66	+ 0·48	0·54	17	1	1	1	1	12	3	4	1	31	2	0	3	17	0	1	7	3·3
5·8	11	0·57	- 1·64	0·15	1	0	0	0	6	12	1	0	1	23	1	0	4	19	1	2	9	2·6
6·6	20	4·20	+ 0·28	0·84	20	4	1	0	4	13	0	0	1	2	5	0	2	16	10	1	23	1·1
8·6	23	4·65	+ 1·12	0·82	28	0	1	0	0	21	1	2	1	19	1	2	1	17	5	0	16	1·5
7·1	11	1·26	− 2·20	0·32	20	0	0	0	1	12	2	0	0	13	1	1	1	23	8	5	8	1·6
6·2	14	1·97	+ 0·19	0·53	15	3	1	0	1	7	0	0	4	10	2	5	6	21	2	10	0	1·6
8·3	24	3·98	+ 1·94	0·73	8	0	0	2	0	20	0	0	6	17	1	11	4	8	2	13	0	1·5
7·4	10	1·81	− 0·26	0·59	14	0	0	0	0	14	0	0	2	9	0	11	8	4	3	23	0	1·6
5·2	16	1·91	...	0·62	16	9	2	0	7	6	0	0	9	1	2	2	7	2	29	8	0	1·8
8·5	26	5·58	...	1·45	16	3	0	1	0	20	2	0	11	2	5	9	10	3	16	6	0	1·4
7·1	9	0·57	...	0·29	30	0	0	0	0	10	0	0	10	2	5	7	2	3	19	12	0	1·1
3·8	15	1·66	− 0·40	0·42	16	1	0	0	9	6	0	0	3	3	0	4	1	11	5	11	22	1·1
8·9	26	7·41	+ 5·26	2·09	16	1	1	1	1	24	0	0	3	4	3	4	1	5	3	13	26	1·0
6·8	10	0·87	+ 1·19	0·50	30	0	0	0	3	14	0	0	3	5	2	3	0	5	4	18	20	1·1

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
TILLYPRONIE, (Aberdeen.) ROBT. LITTLEJOHN, Gardener to Sir John F. Clark, Bt.	1120	Apr.	28·769	51·1	31·1	41·1	+0·3	66·8	9	23·0	24	40·0	3·8	·175	70
		May	28·588	50·5	36·0	43·2	−2·1	60·8	29	27·0	11	43·0	2·6	·223	80
		Jun.	28·902	62·5	44·9	53·7	+1·9	73·7	11	34·7	29	52·3	3·4	·305	77
ABERDEEN, (Aberdeen.) PETER HARPER, Superintendent, Duthie Park.	44	Apr.	29·972	54·1	34·2	44·2	−0·1	65·8	13	27·0	29	43·7	3·4	·214	75
		May	29·759	54·1	39·6	46·8	−1·7	64·2	29	28·2	2	46·5	2·1	·264	83
		Jun.	...	...	...	...	...	...	...	...	...	...	...	...	...
PETERHEAD, (Aberdeen.) Dr W. H. M'WALTER, H.M. Prison.	100	Apr.	29·874	49·5	35·3	42·4	−1·4	61·0	15	27·5	21	43·7	2·9	·223	78
		May	29·692	50·7	40·6	45·7	−2·5	56·2	7	32·9	1	45·8	2·3	·257	84
		Jun.	29·976	57·6	46·2	51·9	−1·9	69·0	21, 22	39·9	1	52·2	2·4	·328	84
CRATHES, (Kincardine.) J. SMITH, Pinewood.	145	Apr.	29·854	53·2	31·8	42·5	−0·4	67·0	9	25·0	2, 24	43·1	4·0	·198	71
		May	29·652	53·1	39·4	46·2	−1·7	64·3	29	27·0	11	46·6	2·0	·271	86
		Jun.	29·942	64·3	46·4	55·4	+1·1	75·0	19	33·3	29	56·2	4·2	·337	74
MONTROSE, (Forfar.) (Royal Asylum), Dr JOHN G. HAVELOCK.	200	Apr.	29·816	49·7	33·7	41·7	−2·0	61·0	13	28·0	18, 30	41·2	3·2	·196	76
		May	29·593	51·8	40·3	46·0	−2·1	62·0	30	29·0	1	45·4	1·5	·269	89
		Jun.	29·879	62·7	47·5	55·1	+0·7	75·0	21	39·0	29	54·4	3·4	·330	78
ARBROATH, (Forfar.) JAMES CAMPBELL, "For the Natural History Assoc. of Arbroath."	68	Apr.	29·948	50·9	34·6	42·7	−1·7	61·5	7	29·0	19	43·3	3·3	·212	76
		May	29·728	52·3	41·2	46·8	−1·9	62·5	30	31·0	1, 2	46·9	2·4	·265	84
		Jun.	30·028	61·4	48·1	54·8	+0·8	76·5	12	40·0	29	54·8	3·1	·344	79
DUNDEE, Eastern Necropolis, (Forfar.) J. CARNOCHAN, Curator.	164	Apr.	29·852	52·9	33·6	43·2	−1·4	61·8	13	27·3	19	42·7	2·9	·214	79
		May	29·628	54·5	41·2	47·8	−1·5	67·7	26	29·8	1	47·0	2·0	·275	86
		Jun.	29·924	66·6	48·3	57·4	+1·7	81·9	12	36·7	29	55·9	3·3	·357	80
DUNDEE, Harbour, (Forfar.) J. THOMPSON, Jr., Harbour Trust.	20	Apr.	...	53·5	36·0	44·8	−1·5	62·8	10	29·8	19	44·6	4·1	·210	71
		May	29·784	54·5	42·7	48·6	−1·7	62·2	26	34·2	1	48·4	2·6	·278	83
		Jun.	30·087	65·8	49·8	57·8	+1·1	77·2	12	34·2	1	57·2	3·7	·362	77
LEDNATHIE, (Forfar.) WM. MORRISON, Gardener to Patrick Stormonth Darling.	720	Apr.	29·235	51·9	28·7	40·3	−1·7	66·0	9	20·0	4	40·7	3·8	·181	71
		May	29·020	52·5	37·1	44·8	−2·3	62·0	8	22·0	1	45·2	2·5	·245	81
		Jun.	29·326	64·0	44·2	54·1	+0·9	78·0	12	32·0	9	55·2	4·1	·325	75
BALRUDDERY, (Forfar.) GEORGE DAVIE, Gardener to J. Martin White.	280	Apr.	29·724	53·4	32·8	43·1	−1·8	66·0	9	27·0	19, 29	42·8	3·7	·201	73
		May	29·504	54·9	40·4	47·6	−1·7	64·0	12	28·0	2	46·8	2·6	·261	82
		Jun.	29·812	66·0	47·0	56·5	+0·8	77·0	11, 12	35·0	29	56·1	3·8	·347	76
PERTH, (Perth.) JOHN LESLIE, Gardener to Henry Coates.	105	Apr.	29·918	54·7	31·4	43·0	−2·2	66·5	9	23·0	19	42·2	2·8	·212	80
		May	29·684	56·3	40·2	48·2	−1·4	66·0	27	25·0	1	47·9	2·5	·273	83
		Jun.	29·984	68·2	47·2	57·7	+1·6	80·5	12	36·5	16, 29	55·9	3·5	·351	78
STRONVAR, (Perth.) D. L. MACKINTOSH, Gardener to James Carnegie.	300	Apr.	29·569	53·8	29·5	41·6	−2·3	69·0	10	20·0	19	41·5	3·7	·191	74
		May	29·341	53·5	37·0	45·2	−3·3	68·0	27	23·0	2	44·9	2·4	·245	83
		Jun.	29·647	68·4	46·8	57·6	+2·9	82·0	11	33·0	4	57·3	4·1	·353	75
CLATHICK, (Perth.) ALEX. HENDRY.	300	Apr.	29·699	55·2	32·2	43·7	−0·7	72·0	9	23·2	19	42·3	3·5	·201	75
		May	29·477	55·4	39·4	47·4	−1·7	67·4	27	26·0	1	47·5	2·9	·261	80
		Jun.	29·770	68·4	48·0	58·2	+2·8	82·0	11	37·6	4	57·0	4·2	·346	74
CUPAR, (Fife.) Dr TURNBULL, Fife and Kinross District Asylum.	210	Apr.	29·814	53·2	34·5	43·9	−0·2	68·0	14	25·0	19	43·9	3·8	·208	73
		May	29·530	53·9	40·6	47·3	−1·8	64·0	8	29·0	2	47·2	2·5	·266	83
		Jun.	29·879	64·4	47·9	56·2	+0·5	77·0	12	36·0	29	56·4	4·0	·345	75
DUNFERMLINE, (Fife.) Dr J. MACDONALD, High School.	225	Apr.	29·782	53·6	...	...	...	68·4	10	...	...	43·8	3·9	·206	72
		May	29·556	54·7	...	...	...	65·0	27	...	...	47·6	2·4	·273	83
		Jun.	...	...	...	...	...	...	...	...	...	...	...	...	...

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
5·2	16	1·62	− 0·54	0·47	16	5	1	0	1	5	0	6	7	2	0	3	3	18	15	12	0	4·4
8·4	28	6·73	+ 4·69	1·12	16	4	1	3	0	21	1	4	16	5	2	8	8	10	7	6	0	4·4
6·5	11	1·03	− 1·23	0·56	30	0	0	0	1	8	0	1	11	6	3	2	3	5	16	14	0	4·0
4·2	9	1·48	− 0·63	0·25	16	4	0	0	5	5	0	0	8	6	0	4	15	18	4	10	0	2·9
7·2	20	4·02	+ 1·96	0·68	16	0	0	2	0	14	4	0	4	6	7	6	12	15	2	7	3	2·4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...
4·2	9	1·66	− 0·21	0·54	16	2	0	0	10	9	0	1	4	0	1	6	22	2	0	15	10	2·1
7·5	17	5·03	+ 3·46	1·24	16	0	0	0	2	17	4	1	17	3	2	6	19	4	2	4	5	2·6
6·8	5	0·34	− 1·66	0·17	30	0	0	0	1	14	7	0	8	0	0	3	15	3	0	17	14	1·8
4·6	10	2·16	..	0·55	16	4	4	0	9	7	0	2	3	4	4	7	8	5	9	13	7	2·6
8·4	27	5·36	...	0·73	16	0	4	3	0	17	3	0	5	8	6	6	6	12	1	14	4	2·2
6·4	12	0·58	...	0·20	30	0	0	0	3	10	0	0	2	6	9	6	5	8	7	14	3	2·6
...	8	1·14	− 0·93	0·53	16	4	3	0	...	...	1	1	7	4	1	6	14	9	10	9	0	3·6
...	20	5·17	+ 3·29	1·20	23	2	0	2	...	...	1	4	14	8	11	11	6	7	3	2	0	3·6
...	12	0·77	− 1·18	0·12	20	0	0	0	...	...	3	2	16	2	10	8	5	10	5	4	0	3·4
4·3	9	1·12	− 0·64	0·54	16	4	0	0	6	5	0	3	9	5	2	4	8	9	13	5	5	2·4
7·7	23	5·23	+ 3·38	0·96	23	0	2	2	0	17	3	2	5	14	7	12	5	7	6	4	2	2·4
6·3	14	1·45	− 0·40	0·30	7	0	1	1	3	12	2	0	6	16	9	3	3	9	9	3	2	2·1
7·4	9	0·99	− 0·93	0·45	16	5	3	0	2	15	1	3	2	14	1	14	0	14	7	8	0	2·0
9·1	21	5·03	+ 3·16	0·79	24	0	0	1	0	23	0	1	3	14	3	15	0	16	3	8	0	1·9
7·3	13	1·13	− 0·86	0·23	21	0	1	0	1	13	3	3	3	11	0	21	0	16	7	2	0	2·0
4·3	8	0·84	...	0·46	16	2	0	0	8	4	0	0	1	13	17	5	1	3	17	3	0	2·4
7·5	21	4·15	...	0·57	8, 21	0	0	0	0	13	0	1	5	10	19	6	5	3	14	0	0	2·4
4·8	11	0·93	...	0·25	21	0	0	0	7	5	0	0	2	1	29	2	0	1	24	1	0	3·2
5·0	14	1·53	− 1·55	0·72	16	5	3	0	6	5	1	2	8	0	3	14	4	1	16	13	1	3·2
7·6	26	5·61	+ 3·03	0·96	5	3	2	3	0	15	2	5	12	4	1	13	6	7	11	8	0	3·0
4·5	12	0·76	− 1·99	0·14	16	0	0	0	4	1	1	1	9	5	9	10	3	2	17	4	1	3·2
3·7	9	0·80	...	0·48	16	1	0	0	8	0	0	0	3	3	0	3	3	4	6	10	28	1·0
7·3	21	4·93	...	0·77	19	0	0	0	2	16	0	0	7	6	7	3	2	8	3	2	24	1·0
5·5	10	1·16	...	0·26	25	0	0	0	4	8	0	0	6	6	7	3	1	5	5	5	22	0·9
3·6	10	0·90	− 1·22	0·30	16	0	0	0	9	4	0	0	1	0	4	7	0	1	21	5	21	0·9
7·3	18	4·71	+ 2·51	0·83	24	0	0	2	2	15	0	0	4	5	16	2	6	6	8	0	15	0·9
5·3	8	1·30	− 0·81	0·34	21	0	0	0	5	8	0	0	0	6	11	1	5	7	15	1	14	0·7
...	17	2·59	− 1·68	0·58	20	9	0	1	...	...	0	0	0	16	2	12	2	22	4	2	0	4·1
...	25	5·29	+ 2·38	0·93	5	3	2	3	...	...	2	5	12	4	1	13	6	7	11	8	0	3·6
...	12	1·09	− 2·85	0·30	20	0	0	0	...	...	0	0	2	10	6	8	0	2	32	0	0	1·9
5·4	11	1·13	− 1·12	0·33	16	3	0	0	4	5	0	0	2	12	12	0	0	18	10	11	0	2·6
8·4	22	5·52	+ 2·94	0·71	5	0	1	2	0	22	0	2	1	9	19	5	12	6	6	4	0	3·0
6·0	8	0·89	− 2·07	0·42	21	0	0	0	4	7	0	0	1	13	17	8	4	6	10	1	0	2·5
4·4	7	0·61	− 1·27	0·34	17	...	...	...	0	2	...	0	10	0	24	1	0	3	7	15	0	1·7
5·3	22	6·18	+ 4·29	1·10	19	...	...	...	0	4	...	0	9	5	27	0	2	4	12	3	0	1·7
4·8	13	1·49	− 0·43	0·30	22	...	...	...	1	2	...	0	9	1	30	0	0	2	8	10	0	1·5
6·6	8	0·97	...	0·29	16	1	0	0	0	8	2	0	11	10	11	0	1	1	24	2	0	1·3
8·4	21	5·30	...	0·51	23	0	1	1	0	20	3	0	8	12	6	10	5	6	11	4	0	1·3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
BUCHLYVIE, (Stirling.)	125	Apr.	29·904	54·7	33·3	44·0	−0·3	67·0	10	24·0	19	43·0	3·0	·215	78
Rev. JOHN A. MACDONALD.		May	29·674	56·0	40·4	48·2	−1·1	69·0	27	27·0	2	48·4	2·2	·286	84
		Jun.	29·968	69·8	47·8	58·8	+3·4	82·5	12	37·0	4	58·0	3·3	·384	80
HELENSBURGH,	18	Apr.	...	52·8	35·6	44·2	−1·0	64·0	12	27·0	19	...	..	...	...
(Dumbarton.)		May	...	53·5	40·9	47·2	−2·9	62·0	14	31·6	12	...	...	...	...
J. R. WILSON, Waterworks.		Jun.	...	64·7	47·2	56·0	+0·6	73·6	13	39·0	4	...	...	...	...
DUMBARTON, (Dumbarton.)	27	Apr.	30·031	54·7	35·9	45·3	−0·6	64·5	12	28·5	19	45·0	3·7	·220	74
WILLIAM DENNY AND		May	29·774	55·8	43·1	49·5	−0·8	65·8	28	31·5	2	49·4	3·0	·281	80
BROTHERS.		Jun.	30·086	67·5	49·7	58·6	+2·4	78·0	11	40·0	3	57·9	4·0	·366	76
LOCHBUIE, (Argyll.)	20	Apr.	30·016	51·5	35·6	43·6	−1·4	62·3	12	30·5	24	...	...	...	...
J. T. MANNARY, Gardener to		May	29·774	53·1	40·7	46·9	−3·1	61·8	14	33·0	2	47·1	2·3	·270	84
The Maclaine of Lochbuie.		Jun.	30·084	62·0	47·7	54·8	−0·2	73·0	17	38·0	13	53·5	3·0	·329	80
AIRDS, (Argyll.)	15	Apr.	30·008	51·1	34·6	42·8	−3·0	60·0	11	34·0	7, 27	...	...	...	...
Colonel MACFIE, C.B., and		May	29·778	52·0	40·4	46·2	−3·8	59·0	29	34·0	2	...	...	...	...
ALEXANDER M'LACHLAN.		Jun.	30·082	62·2	46·6	54·4	−0·6	68·0	15, 18	41·0	1	...	...	...	...
POLTALLOCH, Lochgilphead	135	Apr.	29·900	53·3	35·4	44·4	−0·6	69·0	12	29·0	19	43·4	1·5	·249	88
(Argyll.)		May	29·663	55·4	40·8	48·1	−1·6	69·0	28	30·0	1, 2	48·0	1·9	·287	87
D. S. MELVILLE, Gardener.		Jun.	29·940	66·1	48·0	57·0	+1·3	73·0	12	37·0	4	56·1	2·5	·380	84
ROTHESAY, (Isle of Bute.)	76	Apr.	29·966	53·2	35·4	44·3	−1·0	63·0	11, 12	31·0	2, 30	43·2	3·2	·213	77
R. HENDERSON and D.		May	29·715	54·4	41·7	48·0	−1·9	65·0	27	30·0	1, 2	47·7	2·4	·274	83
PENNEY, Glenburn		Jun.	30·026	66·0	48·7	57·4	+2·2	76·0	11	37·0	4	57·0	3·4	·367	79
Hydropathic.															
GREENOCK, (Renfrew.)	238	Apr.	29·798	52·4	36·1	44·2	−0·3	63·0	12	29·7	19	44·4	4·1	·208	71
DANIEL MACALISTER, C.E.,		May	29·550	54·2	40·7	47·5	−1·8	63·5	28	32·5	2	47·9	2·7	·269	81
Waterworks.		Jun.	29·855	65·4	49·0	57·2	+2·2	75·8	11	41·2	1	56·1	3·6	·352	77
PAISLEY, (Renfrew.)	107	Apr.	29·921	54·4	36·6	45·4	+0·4	66·6	10	29·8	19	44·4	3·7	·215	73
DONALD MACLEAN,		May	29·675	55·7	43·0	49·4	−1·3	66·6	27	31·9	2	49·0	2·9	·278	80
The Coats Observatory.		Jun.	29·985	68·1	50·4	59·2	+2·8	82·7	11	42·2	4	58·6	4·4	·364	74
BOWHILL, (Ayr.)	978	Apr.	28·986	50·9	33·4	42·2	+1·1	64·0	11, 12	27·0	25	41·0	3·1	·195	76
ALEXANDER GILLESPIE, C.E.		May	28·740	51·6	38·2	44·9	−1·6	62·5	13	30·0	1, 21	45·2	1·9	·255	86
		Jun.	29·065	61·4	45·1	53·3	+0·9	71·5	11	37·0	4	53·4	2·4	·342	88
KILMARNOCK, (Ayr.)	74	Apr.	29·963	52·8	34·2	43·5	...	65·5	11	22·5	19	44·2	3·7	·213	73
GLENFIELD & KENNEDY, Ltd.		May	29·717	54·1	42·4	48·2	...	67·0	13	28·5	1	48·6	2·8	·276	81
		Jun.	30·027	65·5	48·1	56·8	...	75·0	11	38·0	4	58·3	4·2	·366	75
GLASGOW, Belvidere Hosp.,	54	Apr.	29·980	58·5	35·7	44·6	−1·2	68·2	10	25·5	19	43·6	3·0	·220	78
(Lanark.)		May	29·740	55·1	42·7	48·9	−1·5	68·2	27	30·2	1	49·7	3·2	·275	77
Dr JOHN BROWNLEE.		Jun.	30·043	67·2	49·8	58·5	+2·3	81·2	11	42·5	4	59·1	4·2	·376	75
GLASGOW, Observatory,	184	Apr.	29·839	51·6	37·1	44·4	−0·7	62·2	10	29·9	19	43·2	3·6	·206	74
(Lanark.)		May	29·594	53·3	43·1	48·2	−2·0	64·7	27	33·3	1	48·0	2·9	·265	80
Prof. BECKER, F.R.S.E.		Jun.	29·900	65·1	50·2	57·6	+1·8	78·0	11	43·8	4	57·0	4·0	·351	75
BOTHWELL, (Lanark.)	150	Apr.	...	53·4	34·3	43·8	−1·0	68·0	10	24·0	19	42·6	3·2	·205	75
Dr JOHN T. WILSON.		May	...	55·0	41·8	48·4	−1·6	65·6	27	29·0	2	47·8	2·6	·270	81
		Jun.	...	67·0	48·3	57·6	+2·0	80·0	11	37·0	4	57·3	3·7	·364	78
LEADHILLS, (Lanark.)	1300	Apr.	...	49·5	29·9	39·7	−0·2	64·5	12	20·0	19	37·3	3·0	·168	75
JAMES M'FARLANE.		May	...	51·6	37·9	44·8	−0·8	66·0	13	25·1	1	43·0	1·8	·238	86
		Jun.	...	62·5	45·8	54·2	+2·5	74·0	11	35·0	29	52·9	3·3	·315	79

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
3·1	14	1·93	−0·79	0·59	20	3	1	1	8	8	0	1	0	2	14	5	0	9	17	7	6	2·4
6·7	27	4·80	+2·02	0·56	11	0	1	1	3	9	1	0	2	0	22	6	0	15	9	8	0	3·0
4·6	13	1·62	−1·65	0·39	25	0	0	0	6	3	8	0	2	0	21	6	1	4	19	6	1	2·6
...	10	1·16	−1·35	0·23	16	...	...	...	...	...	...	...	16	0	14	0	12	0	18	0	0	...
...	21	5·50	+2·75	0·74	23	...	...	...	...	...	...	...	16	0	28	0	6	0	12	0	0	...
...	13	1·60	−1·20	0·29	20	...	...	...	...	...	...	...	14	0	8	0	2	0	36	0	0	...
...	11	1·04	−1·62	0·33	20	...	...	...	...	...	...	0	16	0	0	6	2	0	4	12		1·0
...	22	4·82	+2·10	0·58	5	...	...	...	...	...	...	0	6	2	8	14	2	4	4	12	10	1·2
...	11	1·49	−1·21	0·59	25	...	...	...	...	...	...	0	4	2	0	6	4	2	16	8	18	1·0
4·9	17	5·01	...	1·20	29	0	0	0	11	11	0	0	6	4	4	6	8	14	14	2	2	2·8
6·7	19	5·50	...	1·20	28	0	0	0	4	14	0	3	10	4	14	6	4	10	2	6	6	3·3
5·6	9	1·71	...	0·52	20	0	0	0	8	11	0	0	10	4	0	8	6	16	4	6	6	2·2
5·4	10	2·18	−0·60	...	...	2	...	...	5	5	...	0	13	2	9	3	7	7	17	2	0	2·2
7·9	...	4·08	+0·93	...	...	0	...	...	2	18	...	1	12	1	17	7	8	11	6	0	0	2·4
6·3	...	1·45	−2·02	...	...	0	...	...	2	5	...	0	18	3	9	0	4	11	15	0	0	2·4
4·9	13	2·36	−0·32	0·48	26	2	2	0	4	3	1	0	4	7	4	3	6	7	6	4	19	2·4
6·4	20	4·87	+2·28	0·65	28	0	0	0	2	11	0	3	6	10	2	6	15	9	7	3	4	2·8
5·2	11	2·21	−0·97	0·69	21	0	0	0	5	5	0	0	13	3	2	2	9	7	2	1	21	1·8
4·1	13	2·46	−0·28	0·55	27	2	3	0	11	4	3	0	6	5	5	2	5	5	14	1	17	0·9
7·0	23	5·67	+2·97	0·73	2	0	0	1	5	17	2	0	7	7	8	5	10	1	9	7	8	1·3
4·6	12	1·87	−1·23	0·68	25	0	0	0	8	6	0	0	6	6	6	0	3	6	14	6	13	0·7
6·0	10	1·97	−1·49	0·49	20	3	2	0	1	4	0	0	0	7	2	6	0	11	18	12	4	2·6
8·1	27	6·33	+3·10	0·78	24	0	1	2	0	18	0	0	0	7	8	10	0	11	10	16	0	4·0
5·6	15	1·87	−1·57	0·60	25	0	0	0	2	4	0	0	0	1	11	5	0	5	25	13	0	3·4
5·0	11	1·71	−0·26	0·64	20	1	0	0	7	8	3	0	8	1	3	0	6	1	15	6	20	1·5
8·4	23	5·06	+2·89	0·74	26	0	0	2	0	20	1	0	7	2	8	5	11	6	12	5	6	2·4
5·3	12	1·40	−0·82	0·51	25	0	0	0	3	5	0	0	7	3	9	2	2	5	9	11	12	1·5
6·8	13	2·30	...	0·93	21	...	...	...	0	4	...	0	8	6	6	4	11	11	8	6	0	1·9
8·3	20	5·17	...	0·65	27	...	...	...	0	20	...	0	3	7	8	8	14	8	6	8	0	2·2
6·6	10	2·70	...	0·64	21	...	...	...	0	9	...	0	7	4	4	7	10	10	9	9	0	1·6
...	10	1·71	...	0·68	20	0	0	0	...	...	0	0	3	1	9	8	2	5	25	7	0	2·0
...	22	4·60	...	0·70	24	0	0	0	...	...	0	0	4	0	18	5	7	8	16	4	0	2·4
...	8	1·18	...	0·37	24	0	0	0	...	...	0	0	0	1	12	3	5	6	26	7	0	1·8
6·6	10	1·16	−0·72	0·51	20	1	2	0	0	12	0	0	1	2	24	1	1	3	19	5	4	1·2
8·8	24	4·75	+2·50	0·67	27	0	0	2	0	16	0	0	1	2	8	4	2	5	17	1	22	1·4
7·3	11	1·35	−1·20	0·32	17	0	0	0	1	11	0	0	0	2	14	1	1	1	30	3	8	0·8
7·0	10	1·33	−0·80	0·62	20	2	3	0	0	13	0	2	1	9	3	4	3	12	8	4	16	2·2
9·0	22	4·40	+1·98	0·55	27	0	0	2	0	27	0	0	3	7	12	4	5	11	10	3	7	2·8
7·0	9	1·41	−1·31	0·38	25	0	0	0	0	10	0	0	3	7	13	0	1	17	11	0	8	2·4
...	7	0·99	−0·78	0·54	20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	18	3·98	+2·20	0·60	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	16	0·70	−1·21	0·23	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	12	1·03	...	0·19	17	10	2	0	...	...	0	0	...	...	...	...	...	...	...	...	...	...
...	26	7·90	...	1·51	5	3	0	1	...	...	0	0	...	...	...	...	...	...	...	...	...	...
...	11	2·37	...	0·94	20	0	0	0	...	...	0	0	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. Dyson, F.R.S.	441	Apr.	29·552	51·2	37·0	44·1	+0·6	65·8	10	28·5	19	43·0	3·8	·201	72
		May	29·322	52·1	41·6	46·8	−0·7	62·7	27	32·5	1	46·3	2·4	·260	83
		Jun.	29·624	62·6	48·7	55·6	+1·6	75·1	12	41·8	5	54·6	3·3	·337	79
CORSTORPHINE, (Edinburgh.) Dr T. N. Johnston, F.R.S.E.	165	Apr.	29·853	53·1	34·1	43·6	−0·4	67·1	10	26·0	19	42·1	3·3	·203	76
		May	29·617	53·9	41·6	47·7	−0·9	64·0	27	23·1	2	47·4	2·8	·262	81
		Jun.	29·924	65·2	46·8	56·0	+0·9	76·4	12	39·3	4	55·5	3·8	·338	76
LEITH, (Edinburgh.) James Bolam, Nautical College, and George Redpath.	76	Apr.	29·959	53·1	38·1	45·6	+0·4	62·7	13	32·2	19	44·5	4·9	·194	66
		May	29·719	54·0	43·3	48·6	−0·9	64·9	27	32·8	2	48·1	2·9	·266	79
		Jun.	30·018	64·4	50·3	57·4	+1·6	77·8	12	44·9	1, 29	55·6	3·2	·354	79
DALKEITH, (Edinburgh.) J. Whytock, Gardener to the Duke of Buccleuch.	190	Apr.	29·826	54·3	34·8	44·6	−1·2	69·0	11	25·0	19	44·2	3·6	·214	74
		May	29·606	54·0	40·9	47·5	−1·9	65·0	27	29·0	1, 2	48·1	2·6	·273	82
		Jun.	29·900	65·4	48·3	56·8	+1·0	78·0	11, 12	42·0	5	56·8	4·0	·350	76
SMEATON, (Haddington.) John Black, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Apr.	29·921	55·0	34·4	44·7	−1·6	68·0	10	28·0	30	43·5	2·8	·223	78
		May	29·691	56·6	41·1	48·8	−1·7	67·0	7	28·0	1	47·3	2·2	·273	85
		Jun.	30·007	68·6	47·8	58·2	+1·5	81·0	12	41·0	4, 30	57·1	3·2	·373	80
HADDINGTON, (Haddington.) D. Macrae, Superintendent, District Asylum.	...	Apr.	29·774	53·5	34·9	44·2	−0·4	68·5	10	29·0	30	44·0	...	...	...
		May	29·550	53·9	41·8	47·8	−1·5	65·0	27	30·0	1	47·8	...	...	...
		Jun.	29·843	65·2	48·0	56·6	+1·3	80·0	11	41·0	4, 30	56·6	...	...	...
MARCHMONT, (Berwick.) John A. Wood, Gardener.	500	Apr.	...	52·7	32·6	42·7	−1·1	65·0	10, 16	27·0	19	43·3	4·1	·198	70
		May	...	53·6	39·7	46·6	−1·5	65·0	13	29·0	2	46·4	2·3	·262	84
		Jun.	...	63·9	46·5	55·2	+1·1	79·0	12	37·0	5	54·7	3·3	·338	78
DUNS CASTLE, (Berwick.) James Redpath, Gardener to F. S. Hay.	500	Apr.	29·498	53·2	32·5	42·8	−1·3	65·0	10, 13	28·0	3, 29	42·1	3·9	·192	72
		May	29·264	53·6	39·9	46·8	−1·4	65·0	29	29·0	2	46·4	2·5	·259	83
		Jun.	29·567	64·3	46·9	55·6	+1·4	78·0	12	38·0	4	54·4	2·9	·343	81
BROOMLANDS, (Roxburgh.) James Brunton.	205	Apr.	29·830	53·4	32·7	43·1	−1·9	67·0	10	27·0	3, 19	43·2	3·6	·206	74
		May	29·595	56·0	41·1	48·6	−0·9	69·0	13	27·0	1	48·2	2·4	·279	84
		Jun.	29·892	65·9	47·0	56·4	+0·9	80·0	12	38·0	5, 30	56·1	3·1	·364	80
WOLFELEE, (Roxburgh.) Arthur Hume, Gardener to J. T. S. Elliot.	537	Apr.	29·454	54·5	32·2	43·4	+0·2	68·0	11, 12	21·0	19	41·7	2·6	·211	81
		May	29·220	54·9	40·8	47·8	−1·2	68·0	13	28·0	1	46·7	2·3	·266	83
		Jun.	29·521	66·8	46·6	56·7	+1·8	79·0	12	36·0	5	55·6	2·9	·375	81
DRUMLANRIG, (Dumfries.) David Inglis, Gardener to the Duke of Buccleuch.	191	Apr.	29·847	54·4	32·1	43·2	−0·8	68·0	12	25·0	14	42·2	3·2	·205	77
		May	29·589	55·1	41·8	48·5	−1·2	69·0	13	27·0	1	48·3	2·6	·276	82
		Jun.	29·906	66·8	47·3	57·0	+1·2	77·0	12	40·0	5, 30	57·0	4·1	·349	74
DUMFRIES, (Dumfries.) Rev. William Andson.	60	Apr.	29·992	56·2	35·2	45·7	−0·3	70·7	11	28·0	19	45·2	4·1	·215	72
		May	29·733	56·6	43·0	49·8	−1·6	73·0	13	30·3	1	49·8	3·2	·280	79
		Jun.	30·065	68·8	49·0	58·9	+2·0	82·5	12	41·0	30	58·8	4·3	·370	75
CARGEN, (Kirkcudbright.) Alex. Peacock, Gardener to Colonel Dudgeon.	85	Apr.	29·964	55·5	35·4	45·4	+0·1	69·0	12	27·0	19	45·3	3·0	·237	78
		May	29·720	55·9	42·2	49·1	−1·4	69·0	13	28·0	1	49·3	2·3	·294	84
		Jun.	30·016	68·1	48·8	58·5	+2·3	80·0	12	40·0	30	59·9	3·7	·402	78
CALLY, (Kirkcudbright.) Wm. Thomson.	120	Apr.	29·936	56·1	35·3	45·7	−0·1	63·8	11	28·1	19	46·2	2·0	·267	86
		May	29·670	54·8	41·5	48·2	−2·2	67·8	13	28·3	1	48·4	1·8	·295	86
		Jun.	29·906	66·6	47·7	57·1	+1·4	76·6	11	44·1	29	56·2	2·5	·379	84

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
5·8	9	0·81	−0·70	0·42	16	0	0	0	2	5	1	2	4	4	6	4	9	7	17	7	2	3·0
7·9	21	4·53	+2·88	0·58	23	0	0	0	0	16	3	2	1	4	12	5	16	8	11	4	1	3·4
5·6	9	1·50	−0·41	0·86	21	0	0	0	3	5	4	0	5	8	13	2	2	7	19	2	2	2·6
3·9	10	0·91	...	0·40	16	0	0	0	8	0	1	0	1	4	7	0	1	1	35	5	6	1·8
7·8	24	5·25	...	0·65	17	0	0	0	2	15	0	0	2	6	20	0	4	3	20	4	3	2·0
4·5	12	1·17	...	0·44	16	0	0	1	6	5	0	0	3	1	23	0	5	1	22	1	4	1·7
5·1	11	0·90	−0·86	0·44	16	1	1	0	5	9	2	1	14	6	14	0	2	4	18	2	0	2·9
7·6	24	5·67	+3·80	0·66	19	1	2	0	1	19	0	0	2	6	18	6	8	6	12	4	0	3·4
6·1	12	1·61	−0·39	0·55	21	0	0	0	5	12	2	0	2	8	24	2	0	6	12	4	2	3·1
4·2	9	0·95	...	0·40	16	4	0	0	10	4	1	0	6	9	4	6	2	4	14	14	1	1·1
8·0	19	4·40	...	0·51	8	0	0	1	1	18	0	0	3	13	11	2	1	6	17	9	0	1·5
7·0	12	1·42	...	0·62	21	0	0	0	2	14	1	0	6	7	3	4	7	9	16	8	0	1·2
3·6	6	1·02	−0·49	0·51	16	2	1	0	8	0	0	1	7	2	13	4	6	10	7	11	0	1·2
6·2	20	6·29	+4·53	2·33	19	0	0	2	0	6	2	0	9	12	5	5	14	8	7	2	0	1·2
4·4	8	1·82	−0·05	0·93	16	0	0	0	5	2	4	0	9	4	16	2	14	0	11	4	0	1·0
3·8	8	0·99	...	0·51	16	1	3	0	5	4	0	0	3	4	10	8	1	5	23	11	0	1·4
8·4	20	6·25	...	1·18	19	1	0	3	0	24	0	0	0	5	20	2	0	12	18	5	0	1·4
...	5	1·59	...	0·68	16	0	0	1	9	12	0	0	0	2	20	4	0	1	30	3	0	1·2
2·8	10	1·49	−0·77	0·31	16, 25	5	2	0	13	1	0	2	13	5	9	4	4	13	7	5	0	3·6
7·6	22	7·14	+4·78	1·72	16	2	1	4	0	15	0	5	15	2	11	4	6	8	14	2	0	3·8
5·4	12	1·71	−0·81	0·42	16	0	0	0	7	7	1	1	12	8	10	3	4	4	13	6	0	2·6
4·2	11	1·38	−0·80	0·35	16	5	0	0	10	5	0	0	5	8	4	5	0	5	14	19	0	0·9
8·4	24	7·32	+5·24	1·80	16	1	0	3	0	22	0	0	0	13	4	1	2	24	4	14	0	1·0
6·9	13	1·74	−0·73	0·44	16	0	0	4	5	17	1	0	4	7	9	1	3	11	11	14	0	0·6
4·7	12	1·05	−0·67	0·27	25	5	0	0	1	1	0	0	4	2	23	2	2	17	9	0	1	3·0
6·8	24	5·73	+3·89	1·20	19	0	0	2	1	10	0	0	0	9	15	1	0	36	0	0	1	2·8
6·7	12	2·06	+0·07	0·44	16, 21	0	0	0	0	6	0	0	0	5	17	5	0	23	4	5	1	3·0
4·8	12	1·12	−1·32	0·19	16	6	2	0	5	3	0	0	5	7	4	6	5	13	9	11	0	1·0
8·0	25	5·94	+3·46	1·31	19	0	1	2	0	12	0	0	9	5	2	8	2	14	13	9	0	1·6
6·3	9	1·94	−0·34	0·74	22	0	0	2	2	5	0	0	8	11	3	2	1	20	11	4	0	1·1
...	13	1·51	−0·98	0·27	20	2	0	1	...	...	0	...	4	8	1	4	13	6	4	20	0	...
...	24	5·84	+3·44	0·79	19	0.	0	3	...	...	0	...	7	6	0	8	10	21	1	9	0	...
...	12	1·80	−0·74	0·49	21	0	0	0	...	...	0	...	3	12	1	2	2	15	4	21	0	...
...	10	0·87	−1·38	0·26	21	1	3	0	...	...	0	0	0	8	1	8	3	10	9	13	8	2·6
...	25	5·73	+3·41	1·38	19	1	1	1	..	...	0	0	4	8	10	11	3	8	8	6	4	2·9
...	9	1·37	−0·99	0·36	16	0	0	0	...	...	0	0	5	9	9	4	3	9	4	13	4	2·2
5·0	9	1·04	−1·42	0·46	21	0	0	0	0	0	0	0	·8	2	6	16	1	5	11	11	0	2·8
6·8	17	7·00	+4·43	1·36	19	0	0	3	0	5	0	0	5	4	6	11	9	13	10	4	0	3·0
6·2	8	2·08	−0·47	0·62	23	0	0	0	0	3	0	0	5	1	12	16	7	6	11	2	0	2·8
...	13	1·86	−0·97	0·35	27	3	2	0	...	...	0	0	1	17	5	10	3	5	1	17	1	1·7
...	25	6·17	+3·25	0·80	24	0	0	1	...	...	0	0	1	6	2	12	9	14	3	15	0	1·9
...	10	2·36	−0·68	0·41	20, 25	0	0	0	...	...	0	0	0	8	1	6	11	23	2	8	1	1·7

BRIGHT SUNSHINE.

STATIONS.	1906.	SUNSHINE.		
	Months.	Total Observed.	Difference from Average.	Percentage of Possible.
		hours.	hours.	%
DEERNESS, (Orkney.)	April	200·9	+51·7	47
	May	131·8	−46·9	25
	June	145·2	− 8·4	27
INVERNESS, (Inverness.)	April	172·5	+57·5	41
	May	95·7	−34·3	19
	June	191·8	+37·8	36
FORT AUGUSTUS, (Inverness.)	April	144·2	+28·6	34
	May	68·4	−67·6	14
	June	162·8	+27·9	31
CRATHES, (Kincardine.)	April	232·5	...	55
	May	106·2	...	21
	June	198·9	...	38
BALRUDDERY, (Forfar.)	April	186·7	...	44
	May	110·0	...	22
	June	190·6	...	37
OBAN, (Argyll.)	April	178·7	...	42
	May	128·6	...	25
	June	206·4	...	40
PAISLEY, (Renfrew.)	April	159·8	+16·8	38
	May	102·7	−67·3	21
	June	196·8	+39·8	38
GLASGOW, (Lanark.)	April	138·3	+10·4	33
	May	90·0	−74·4	18
	June	183·4	+18·6	36
EDINBURGH, (Edinburgh.)	April	175·4	+26·5	41·4
	May	112·0	−47·3	22·3
	June	205·6	+18·0	39·4
DUNS CASTLE, (Berwick.)	April	193·2	...	46
	May	100·8	...	20
	June	167·8	...	33
MARCHMONT, (Berwick.)	April	203·9	+63·1	49
	May	107·5	−71·6	22
	June	194·5	+ 9·5	38

UNDERGROUND TEMPERATURE.

STATIONS.	1906.	UNDERGROUND TEMPERATURE.				
	Months.	Depth in Inches.				
		3	12	22	36	48
		°	°	°	°	°
DUNROBIN, (Sutherland.)	April	41·4	44·5	44·0	...	...
	May	46·1	48·2	47·5	...	...
	June	55·3	56·8	56·9	...	...
ARBROATH, (Forfar.)	April	42·6	44·9	41·6	...	...
	May	46·3	45·7	45·0	...	...
	June	54·4	53·6	52·2	...	...
POLTALLOCH, (Argyll.)	April	44·8	45·7	46·3	...	...
	May	49·0	49·3	49·9	...	...
	June	58·7	58·9	58·5	...	...
ROTHESAY (Bute.)	April	...	...	...	...	43·4
	May	...	...	...	...	46·0
	June	...	...	...	...	51·1
PAISLEY, (Renfrew.)	April	43·6	43·7	45·1	...	...
	May	48·8	47·8	48·0	...	...
	June	58·6	56·9	55·9	...	...
CORSTORPHINE, (Edinburgh.)	April	41·9	43·3	43·0	41·6	42·0
	May	47·5	47·4	46·8	45·2	45·0
	June	56·8	56·5	55·4	52·1	50·6
SMEATON, (Haddington.)	April	44·6	44·4	43·4	...	...
	May	50·3	49·9	48·4	...	...
	June	60·1	59·2	56·7	...	...
MARCHMONT, (Berwick.)	April	42·5	43·1	43·8	...	...
	May	48·0	47·4	47·3	...	...
	June	58·5	56·8	56·1	...	...

Continuation of page 179.]

were organised. There was a decided excess all over the country, but whilst this was moderate towards the North West, to the South East of a line drawn from about Elgin to Loch Ryan, all stations had much more than twice, and some more than thrice their normal amounts. The excess was perhaps most remarkable in the Logie Coldstone district of Aberdeenshire and in East Lothian. At Smeaton the total of 6·29 inches was no less than 3½ times the average, and more than 2 inches above any May rainfall at that place, in a record going back to 1834. In Berwickshire, East Lothian, and on the Forfarshire Coast more rain fell than in the first four months of the year together. We note the following heavy falls:—1·51 inch at Leadhills on 5th; 2·09 inches at Loanhead (Logie Coldstone) on 16th; and 2·33 inches at Smeaton on 19th. The absence of heavy falls at nearly all West Coast stations was remarkable.

The month was thus an exceptional one, and especially from 16th to 19th was of a wintry character, with snow in districts. Heavy and destructive flooding occurred in East Lothian on 19th and 20th.

Thunderstorms were general during the last week of the month, especially on 24th and 26th.

Sunshine was much below the average.

JUNE 1906—

Hence the month of JUNE 1906 was characterised by a high mean barometric pressure; a somewhat high mean temperature, with a rather large mean daily range; a rather low mean humidity; a mean rainfall greatly below the normal, and with fewer days with rain than the average; fewer Southerly winds than usual.

The mean barometric pressure of 30·100 inches was 0·154 inch above the normal, and the highest June pressure since 1887, though the mean for 1903 was all but as high. At Leith the mercury remained continuously above 30 inches from 2nd to 23rd, the highest reading being 30·397 inches on 5th. The lowest reading there was 29·428 inches on 1st.

The mean temperature was 55°·8, or 0°·9 above the normal, the days being 1°·6, and the nights 0°·1 above their respective averages. At Fort-Augustus temperature was just the average, and at Peterhead and in Orkney there was a deficiency, but as a rule the excess was well marked. Some considerable fluctuations were experienced. Thus everywhere the maximum was reached on 11th or 12th, Paisley reporting on the former day a shade reading of 82°·7,—the absolute maximum for Scotland for the month,—whilst four days later the highest temperature at that place was only 60°·0. At both the beginning and end of the month the nights were very cold, especially the night of the 28th, when a ground frost was experienced in Central and Northern districts. The absolute minimum, however, fell on 9th, when Lednathie reported a shade reading of 32°·0.

The mean rainfall was 1·39 inch, or 45 per cent. below the normal, the distribution being in extraordinary contrast to that of May. In East Lothian and at Kelso the amounts were about the average, but most of the rainfall stations had a shortage of from 30 to 50 per cent., whilst Dunrobin, Fort Augustus, Lednathie and Stronvar had only about one quarter of their normal amounts. From 2nd to 15th, a practically rainless spell occurred in most districts, though at Arbroath, and in Berwickshire, rather heavy falls were noted on 7th, as at Gordon Castle on 14th. Towards the North West this dry spell was prolonged till the 20th. The month closed under dry conditions in the South, though in the North rather heavy falls occurred. The heaviest daily amounts were 0·93 inch at Smeaton on 16th; 0·94 at Leadhills on 25th; 0·86 at Edinburgh on 26th; and on 0·88 at Glencarron on 27th.

On 29th the Kingussie observer reported "fresh snow on the Grampians."

Thunder was reported at Arbroath and Duns on 7th; at Haddington on 9th; at Wolfelee and Drumlanrig on 12th; at Wolfelee on 22nd; at Corstorphine on 25th; and, probably, at Duns on 16th, 26th and 30th.

A good deal of fog occurred, especially around 10th, 18th and 22nd. Bright sunshine, however, except in Orkney, was above the average, Inverness, Fort Augustus and Glasgow having twice as much as in May.

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 30th SEPTEMBER 1906.

By Dr BUCHAN, under the Direction of the Council of the Scottish Meteorological Society.

THESE returns are founded on the observations made, morning and evening, at 59 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N. ; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1906.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
July	29·921	64·1	47·8	56·0	78·0	33·0	55·9	3·2	·359	80	16	2·68	6·4	*
Aug.	29·867	64·6	50·5	57·5	85·4	32·3	57·0	2·5	·391	84	20	4·83	7·0	*
Sept.	30·148	63·2	45·9	54·5	90·0	27·0	53·5	2·5	·340	83	10	1·82	4·9	*

1906.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS.										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
July	58·2	58·4	57·8	55·2	54·0	2	2	4	6	7	13	18	6	4	2·4	29	1
Aug.	58·6	58·6	58·3	56·4	55·4	3	3	7	5	7	12	13	6	6	1·9	37	3
Sept.	54·4	56·2	56·7	55·8	55·0	3	3	6	3	6	11	15	6	7	1·8	7	1

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these returns are compared with the averages of 1856–1905, during the same months, they show the following characteristics and differences :—

JULY 1906—

Mean Atmospheric Pressure, 29·921 inches; greater than the average of 1856-1905 by 0·029 inch.
Mean Temperature, 56°·0; less by 1°·3.
Mean Daily Range of Temperature, 16°·3; greater by 1 ·4.
Mean Humidity, 80 per cent.; less by 2 per cent.
Rain, Number of Days, 16; greater by 1 day.
Rain, Depth in Inches, 2·68; less by 0·44 inch.
Wind, Mean Force (on Scale of 0–12), 2·4; being the average.
Wind, Direction of: a 4 days' excess from between S.E. and W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·4; less by 0·2.

AUGUST 1906—

Mean Barometric Pressure, 29·867 inches; greater than the average of 1856–1905 by 0·011 inch.
Mean Temperature, 57°·5; greater by 1°·0.
Mean Daily Range of Temperature, 14°·1; less by 0°·4.
Mean Humidity, 84 per cent.; being the average.
Rain, Number of Days, 20; greater by 4 days.
Rain, Depth in Inches, 4·83; greater by 1·15 inch.
Wind, Mean Force (on Scale of 0–12), 1·9; less by 0·4.
Wind, Direction of: of average distribution.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·0; greater by 0·4.

SEPTEMBER 1906—

Mean Barometric Pressure, 30·148 inches; greater than the average of 1856–1905 by 0·282 inch.
Mean Temperature, 54°·5; greater by 1°·7.
Mean Daily Range of Temperature, 17°·3; greater by 3°·3.
Mean Humidity, 83 per cent.; less by 2 per cent.
Rain, Number of Days, 10; less by 6 days.
Rain, Depth in Inches, 1·82; less by 1·70 inch.
Wind, Mean Force (on Scale of 0–12), 1·8; less by 0·8.
Wind, Direction of: a 2 days' excess of winds from W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 4·9; less by 1·4.

JULY 1906—

Hence the month of JULY 1906 was characterised by a slightly high mean pressure; a low mean temperature, with a rather high mean daily range; a rather low mean humidity; a somewhat low mean rainfall, with about the average number of days with rain; and a large excess of winds from between S.E. and W.

The mean barometric pressure was 29·921 inches, or 0·029 inch above the normal. The fluctuations of the mercury were unimportant except on the 19th, when a depression of unusual depth for summer passed close to the Shetlands (28·82 inches at Baltasound), with a strong Westerly gale in the north. At Leith the sea-level extremes were 30·242 inches on 11th and 29·425 inches on 18th.

The mean temperature was 56°·0, or 1°·3 below the normal, the days being 0°·6 and the nights 2°·0 below their respective averages. Thus the nights were decidedly cool, whilst a feature of the month was the absence of high day temperatures in shade, Edinburgh failing to reach 70°·0. A good many stations differed from their normals by less than 0°·5, whilst others, as Dunrobin and Fort William, had a deficiency of more than 2°·0. Highest readings occurred on various dates, chiefly between 22nd and 26th, but at Kingussie and Dumfries on 5th. Lowest readings were noted in most districts on 1st or 11th, but in some on 20th or some later date. The absolutely highest temperature was 78°·0 at Dumfries on 5th and at Dundee on 2nd, and the lowest 33°·0 at Lairg on 1st, and we note also on 11th 33°·2 at Kingussie and 33°·5 at Balmoral.

The mean rainfall was 2·68 inches or 14 per cent. below the normal. Towards the North-West there was a decided excess, amounting at Fort-William to 70 per cent.; but in Eastern and Southern districts a pronounced shortage, Dundee with an aggregate of 0·98 inch, falling on 8 days, having one third of its normal allowance. Remarkably heavy falls occurred in the North-West between 17th and 19th, the total for these three days being more than 7 inches at Glenquoich, whilst Fort-William registered 3·29 inches on 17th and 1·64 inch on 18th. In the South the heaviest falls were 1·11 inch at Leadhills on 16th and 1·04 inch at Greenock, on 18th. The greater part of the month's rain fell during the third week, except in parts of the Eastern fringe of the country where heavy falls occurred on 31st. At Aberdeen a fall of 1·16 inch on that day was more than half the total for the month.

The gale of the 19th came on very suddenly and caused serious loss to the Shetland fishing fleet.

Sleet fell at Poltalloch on 7th, and hail at that place and also at Glencarron and Paisley on 19th and at Peterhead on 24th.

Severe thunderstorms occurred at some Western Stations on the night of 30th, and towards the East on 31st.

Sunshine was decidedly above the average in amount; but a good deal of fog occurred in East and North at the close of the month and around 6th and 7th.

AUGUST 1906—

Hence the month of AUGUST 1906 was characterised by a slightly high mean barometric pressure; a rather high mean temperature, with a slightly low mean daily range; an average mean humidity; a high mean rainfall, with a large number of days with rain; and winds of average distribution and very moderate force.

The mean barometric pressure was 29·867 inches, or 0·011 inch below the normal. From 26th onwards the mercury was high and steady, but for the greater part of the month the weather was under the influence of depressions of moderate depth. At Leith the sea-level extremes were 30·346 inches on 27th and 29·451 inches on 13th.

The mean temperature was 57°·5, or 1°·0 above the normal, the days being 0°·8 and the nights 1°·2 above their respective averages. The temperatures excess was very decided in the South and South-East. Lowest readings were noted on various dates,—at most stations on the night of 18th, but at some on 23rd and 26th, and at Rothesay on 6th. About 22nd and 23rd the day temperatures were very low for the time of year, but during the last three days a remarkable heat wave spread northwards from England, with highest readings on 31st when many of the stations reported maxima above 80°·0. The absolutely highest temperature was 85°·4 at Loanhead (Logie Coldstone) on 31st, and the lowest 32°·3 at Lairg on 23rd.

The mean rainfall was 4·83 inches, or 31 per cent. above the normal. Towards East and South there was a large excess, Cargen (near Dumfries) having 8·74 inches, or 116 per cent. above the average, and the heaviest August rainfall there for at least 40 years. Towards the West and North the distribution was irregular. There was a heavy local excess in the Logie Coldstone district between the Dee and the Don, whilst Upper Deeside had a deficiency, and Fort-William and Glencarron had small shortages, and Stornoway little more than half its average. Heaviest falls occurred on 2nd (1·70 inch at Dumfries); on 8th (2·51 inches at Tillypronie); on 13th (1·05 inch at Lerwick and 1·08 inch at Smeaton); and on 16th (1·23 inch at Tillypronie). The closing days of the month were rainless.

A severe thunderstorm was general on 2nd, with serious flooding at Dundee and elsewhere, whilst thunder was heard at Marchmont on as many as 8 days and at Lednathie on 7.

The close of the month was characterised by brilliant sunshine in all districts, but otherwise the skies were much cloudier than usual. Fog was not infrequent.

SEPTEMBER 1906—

Hence the month of SEPTEMBER 1906 was characterised by an exceptionally high mean pressure; a high mean temperature, with a notably high daily range; a rather low mean humidity; a very low mean rainfall, with a small number of days with rain; and a wind force much below the average, with a slight excess of winds from W.

The mean barometric pressure of 30·148 inches or 0·282 inch above the normal, was the highest recorded since 1894 (when the mean was 30·217 inches), and with that exception the highest for at least 50 years. During the second half of the month the mercury was continuously high, and from 23rd to 27th remained above 30·5 inches in Southern districts. Earlier in the month the more important depressions were on 2nd, 5th and 15th, the extremes at Leith being 30·579 inches on 23rd, and 29·345 inches on 15th.

The mean temperature was 54°·5, or 1°·7 above the normal. The night temperatures were practically equal to the normal, but the days were 3°·4 above, the resulting daily range of 17°·3 being the highest recorded in 50 years. The hot spell which began at the close of August continued into the early days of September, and "record" readings were reported. Gordon Castle touched 90° in the shade on 1st, Dumfries 89° on 2nd, Duns 89° on both 1st and 2nd, whilst 88° was reached at Paisley, Haddington, Dalkeith, Broomlands and Wolfelee. The heat wave did not extend to the Northern Islands, Deerness on 1st having a maximum of only 68°·5 and Baltasound of 64°·5. Cooler weather set in about the 4th, and there were thereafter no remarkable deviations from the normal, though some ground frost occurred towards the close of the month, whilst we note shade minima, 27°·0 at Crathes on 27th, 28°·0 at Kingussie on 17th, and 28°·9 at Balmoral on 30th.

The mean rainfall of 1·82 inch was 48 per cent. below the normal, and the lowest mean since 1895. In the Hebrides, and in Southern and South Eastern districts there was only one-fifth the normal rainfall, whilst shortages of at least 50 per cent. were wide spread. At Deerness there was a trifling excess. The last half of the month was practically rainless, whilst heavy falls occurred towards West and North on 5th, 11th and 13th. We note :—on 5th, 1·98 inch at Glencarron, 1·87 inch at Fort-William, and 1·50 inch at Lochbuie; on 11th, 1·02 inch at Dunrobin, 1·70 inch at Lochbuie, and 1·21 inch at Rothesay; and on 13th, 1·26 inch at Baltasound. Marchmont had only 5 days with rain.

A gale from S.W. was experienced in exposed Western districts on 5th.

There was much bright sunshine, but some dense fog at the end of the month.

Thunder at Baltasound on 1st, 2nd, 8th and 12th; at Balmoral on 3rd; at Lednathie, Rothesay and Cargen on 14th; and at Deerness on 15th.

On 22nd a brilliant aurora was observed in the North.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	July	29·567	...	...	...	...	...	...	...	...	51·2	...	...	...
		Aug.	29·578	...	...	...	...	...	...	...	...	52·0	...	...	...
		Sep.	...	...	...	...	...	...	...	...	...	...	...	...	...
BALTASOUND, (Shetland.) T. Edmondston Saxby.	50	July	29·773	56·7	47·0	51·8	...	65·0	10	40·0	4	53·1	2·1	·359	85
		Aug.	29·781	57·3	48·7	53·0	...	64·0	1	42·5	8	52·6	2·2	·337	85
		Sep.	30·008	56·1	47·0	51·6	...	64·5	1	38·5	17	51·9	1·9	·366	87
LERWICK, (Shetland.) Capt. G. Allison, Harbour Master.	30	July	29·800	56·0	47·6	51·8	−1·9	62·0	29	39·0	1	51·7	2·3	·324	85
		Aug.	29·794	58·0	49·0	53·5	−0·0	63·0	8	42·0	19	53·0	2·0	·347	86
		Sep.	30·069	57·0	48·8	52·9	+1·2	68·0	1, 2	42·0	23	52·2	2·0	·337	86
DEERNESS, (Orkney.) M. Spence, Schoolhouse.	172	July	29·686	56·7	47·3	52·0	−1·6	61·3	9	38·8	1	51·8	2·1	·331	86
		Aug.	29·658	57·2	49·3	53·3	−0·1	62·2	4	45·2	22	53·1	1·5	·362	89
		Sep.	29·912	57·2	48·6	52·9	+1·7	68·5	1	43·7	17	53·0	2·0	·347	86
KIRKWALL, (Orkney.) William T. Sinclair.	30	July	29·826	59·4	47·0	53·2	−1·8	67·0	30	38·0	1	53·1	1·9	·351	86
		Aug.	29·797	59·9	49·3	54·6	−0·2	68·4	4	40·0	12	54·0	1·6	·371	89
		Sep.	30·054	60·3	48·0	54·2	+1·8	75·4	3	38·5	17	52·9	1·8	·351	88
DUNROBIN, (Sutherland.) D. Melville, Gardener, Dunrobin Castle.	16	July	29·858	60·9	47·4	54·2	−2·1	66·0	7, 9	35·0	1	54·4	3·1	·338	80
		Aug.	29·821	61·7	50·1	55·9	−0·1	70·0	29, 30	38·5	23	55·8	2·2	·384	76
		Sep.	30·088	60·4	46·5	53·4	+0·5	73·0	2	38·5	25	54·0	2·4	·350	84
LAIRG, (Sutherland.) Rev. John K. Maclean, M.A.	390	July	...	65·0	44·5	54·8	−2·1	72·5	22	33·0	1	...	...	...	...
		Aug.	...	66·2	47·6	56·9	+0·7	81·5	30	32·3	28	...	...	...	...
		Sep.	...	...	...	...	...	...	...	...	...	...	...	...	...
GLENCARRON, (Ross.) D. D. Munro.	504	July	29·344	60·4	47·2	53·8	−1·2	74·0	26	36·8	12	53·8	3·4	·322	77
		Aug.	29·301	62·7	49·8	56·3	+1·6	72·8	31	43·0	23	55·4	2·8	·361	83
		Sep.	29·572	61·4	46·4	53·9	+2·9	86·0	2	37·0	30	52·7	3·0	·320	80
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	July	29·708	...	...	...	...	...	...	...	...	54·8	...	...	...
		Aug.	29·674	...	...	...	...	...	...	...	...	55·9	...	...	...
		Sep.	29·946	...	...	...	...	...	...	...	...	56·0	...	...	...
KINGUSSIE, (Inverness.) Dr Walter de Watteville.	828	July	29·016	63·3	45·4	54·4	−1·0	71·8	5	33·2	11	55·2	4·0	·328	75
		Aug.	28·973	64·1	47·7	55·9	+1·7	77·1	31	37·8	19	56·2	3·2	·362	80
		Sep.	29·236	62·0	41·5	51·8	+1·8	86·6	1	28·0	17	51·3	2·9	·306	80
INVERNESS, (Inverness.) Thos. Wallace, High School.	114	July	29·782	64·4	49·4	56·9	−1·0	74·3	26	39·8	12	57·5	4·1	·356	75
		Aug.	29·733	63·5	51·9	57·7	+1·0	78·2	31	43·0	23	57·7	3·0	·390	81
		Sep.	30·002	63·0	48·4	55·7	+2·6	85·0	1	38·2	17	54·7	2·9	·349	81
FORT AUGUSTUS, (Inverness.) Rev. Cyril von Dieckhoff, St Benedict's Priory.	73	July	29·818	63·8	48·3	56·0	−1·5	75·4	26	36·5	12	55·9	3·6	·349	78
		Aug.	29·775	64·3	51·5	57·9	+0·7	76·8	31	40·8	19	56·8	3·0	·375	81
		Sep.	30·066	62·9	45·9	54·4	+1·4	86·9	2	31·9	30	53·0	2·2	·342	85
FORT WILLIAM, (Inverness.) W. T. Kilgour.	175	July	...	62·4	47·6	55·0	−2·3	75·0	26	36·7	12	55·2	2·8	·357	81
		Aug.	...	63·6	51·2	57·4	+0·3	74·0	31	41·6	19	57·0	2·1	·402	86
		Sep.	...	62·2	45·7	54·0	+0·7	84·5	2	32·7	30	53·0	2·0	·347	86
GORDON CASTLE, (Banff.) C. Webster, Gardener to the Duke of Richmond and Gordon.	107	July	29·772	65·7	47·7	56·7	−0·5	72·5	22	38·3	1	57·2	4·4	·344	73
		Aug.	29·730	65·7	48·1	56·9	+0·4	78·0	31	38·0	23	...	...	...	...
		Sep.	30·002	65·1	43·7	54·4	+1·1	90·0	1	31·5	30	54·6	4·0	·319	76
BALMORAL, (Aberdeen.) J. Michie, M.V.O., and John M. Troup.	927	July	28·896	63·6	44·3	54·0	+0·2	72·0	22, 23	33·5	11	54·7	4·1	·318	75
		Aug.	28·873	63·3	46·8	55·1	+0·6	79·0	31	35·0	19	56·6	3·9	·350	76
		Sep.	29·137	62·3	40·2	51·2	+0·7	87·5	1	28·9	30	53·1	3·7	·307	75

SCOTLAND for the Quarter ending 30th September 1906.

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
7·5	9	…	…	…	…	0	0	0	2	14	5	3	7	1	3	6	14	13	18	1	4	4·1
8·2	12	…	…	…	…	0	0	0	0	17	9	0	17	3	9	2	8	10	8	4	6	2·6
…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
6·7	25	3·37	…	1·00	19	0	0	0	1	10	6	2	4	1	1	15	11	9	17	4	0	2·8
7·5	23	2·36	…	0·48	13	0	0	0	0	12	4	0	10	10	10	7	6	3	10	6	0	2·5
6·4	18	3·15	…	1·19	13	0	0	4	2	8	5	0	5	2	7	1	15	8	18	4	0	2·6
…	20	3·56	…	0·64	18	0	0	0	…	…	5	2	4	0	1	4	18	15	12	5	3	3·6
…	18	3·47	…	1·05	13	0	0	0	…	…	4	0	9	9	2	7	16	7	5	2	5	3·4
…	13	2·79	…	1·26	13	0	0	0	…	…	3	3	3	3	3	2	17	13	4	13	2	3·6
7·4	15	2·45	− 0·21	0·64	19	0	0	1	1	16	7	2	0	1	2	14	9	11	14	8	3	4·6
7·9	20	3·06	+ 0·24	0·75	13	0	0	1	0	20	11	1	4	8	8	10	12	8	8	4	0	3·8
5·0	10	3·11	+ 0·11	0·85	11	0	0	1	4	5	0	3	…	…	…	…	…	…	…	…	..	…
…	15	2·26	− 0·35	0·61	19	…	…	…	…	…	…	0	2	0	4	4	12	8	28	4	0	4·8
…	18	3·03	+ 0·01	0·70	13	…	…	…	…	…	…	0	2	4	14	6	10	10	6	10	0	3·6
…	10	2·17	− 1·15	0·64	11	…	…	…	…	…	…	3	8	0	4	2	16	10	18	0	0	4·2
…	11	3·34	+ 0·70	1·18	17	0	0	1	…	…	0	2	2	0	5	18	4	9	10	12	2	2·1
…	18	3·37	+ 0·70	0·41	24	0	0	0	…	…	2	0	4	2	23	5	7	1	16	4	0	1·7
…	7	2·08	− 0·55	1·02	11	0	0	0	…	…	2	0	3	3	7	2	8	6	22	5	4	1·5
…	18	4·08	+ 1·18	1·46	17	…	…	…	…	..	…	…	…	…	…	…	…	…	…	…	…	…
…	25	3·25	+ 0·28	0·67	16	…	…	…	…	…	…	…	…	…	..	…	…	…	…	…	…	…
…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
7·3	22	8·51	+ 2·82	2·95	17	0	1	0	1	15	1	0	6	0	12	0	0	0	44	0	0	3·4
7·9	27	6·48	− 0·74	0·89	4	0	0	0	1	20	0	0	14	0	18	0	1	0	29	0	0	2·6
6·0	14	5·30	− 3·36	1·98	5	0	0	0	4	11	0	0	6	0	20	0	3	0	31	0	0	2·2
6·6	21	3·31	+ 0·29	0·48	18	0	0	0	1	9	6	0	1	2	0	5	16	8	16	14	0	3·6
8·3	22	4·81	+ 1·09	0·73	15	0	0	0	0	18	9	0	5	6	2	8	16	12	11	2	0	3·0
6·4	10	2·24	− 1·93	0·46	6	0	0	0	1	9	3	2	2	2	0	2	19	19	13	3	0	3·4
7·1	19	2·40	+ 0·04	0·72	17	0	0	0	1	10	..	…	…	…	…	…	…	…	…	..	…	…
7·2	18	4·28	+ 1·45	1·04	8	0	0	0	1	14	…	…	…	…	…	…	…	…	…	…	…	…
5·2	10	1·97	− 0·90	0·74	11	0	0	0	7	5	…	…	…	…	…	…	…	…	…	…	…	…
6·4	14	2·12	− 0·64	0·70	17	0	0	1	0	5	1	0	1	18	2	0	3	18	16	9	0	1·9
7·6	16	3·33	+ 0 67	0·69	8	0	0	3	1	14	3	0	0	14	6	0	3	19	13	7	0	1·3
5·2	8	1·36	− 1·27	0·70	·11	0	0	0	4	7	6	0	1	2	6	0	1	22	20	5	3	1·3
6·2	14	3·44	+ 0·46	1·30	17	0	0	0	2	7	3	1	2	8	0	2	1	39	3	1	6	3·1
6·9	18	3·80	+ 0·11	0·99	8	0	0	2	1	12	3	0	1	16	0	0	5	19	3	2	16	2·1
5·6	13	2·36	- 1·69	1·03	5	0	0	0	5	7	3	1	1	5	0	0	7	25	1	2	19	1·9
8·1	22	8·08	+ 3·30	3·29	17	0	0	0	0	17	0	0	0	0	0	1	6	31	15	1	8	1·6
8·4	28	5·93	− 0·47	1·33	2	2	0	0	0	21	1	0	0	4	1	0	3	20	7	4	23	0·8
6·2	13	5·46	− 2·28	1·87	5	0	0	0	4	9	1	0	0	4	1	1	2	17	12	1	22	0·9
6·5	16	1·71	− 1·39	0·64	31	0	0	1	0	10	0	0	2	4	0	18	5	19	6	8	0	2·0
7·6	19	3·31	− 0·06	0·63	24	0	0	3	1	14	0	0	2	4	1	17	4	17	6	11	0	1·4
4·9	9	1·38	− 1·56	0·53	11	0	0	0	7	3	0	0	0	13	19	0	3	6	17	2	0	2·4
7·6	15	1·19	…	0·48	31	0	0	1	0	11	1	0	2	0	7	4	8	3	32	6	0	1·0
7·8	20	2·68	…	0·80	8	0	0	4	2	18	0	0	9	3	10	3	9	0	25	3	0	0·9
6·0	8	1·40	…	0·69	3	0	0	1	3	9	1	0	7	0	7	0	6	0	38	2	0	0·3

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
LOANHEAD, (Aberdeen.) Alex. Farquharson.	747	July	29·106	65·5	46·8	56·2	+0·4	74·8	22	39·0	1	56·5	3·9	·348	76
		Aug.	29·060	64·7	49·1	56·9	+1·8	85·4	31	40·5	19	57·1	2·6	·390	83
		Sep.	29·332	64·8	44·5	54·6	+3·2	87·9	2	35·3	30	53·8	2·9	·335	80
TILLYPRONIE, (Aberdeen.) Robt. Littlejohn, Gardener to Sir John F. Clark, Bt.	1120	July	28·715	62·8	44·7	53·7	−0·8	74·0	22	36·3	1	52·7	2·8	·325	81
		Aug.	28·687	63·3	47·6	55·4	+1·6	81·5	31	38·1	19	54·0	2·7	·342	82
		Sep.	28·940	62·7	44·1	53·4	+3·8	85·4	1	35·8	24	51·2	2·8	·307	81
ABERDEEN, (Aberdeen.) Peter Harper, Superintendent, Duthie Park.	44	July	29·862	65·8	49·0	57·4	+0·1	74·1	22	41·0	25	56·8	3·8	·354	76
		Aug.	29·816	65·4	49·9	57·6	+0·7	79·5	31	41·0	19	56·6	2·4	·389	84
		Sep.	30·096	63·0	44·9	54·0	+0·8	79·2	1	33·0	24, 25	52·4	2·2	·335	85
PETERHEAD, (Aberdeen.) Dr W. H. M'Walter, H.M. Prison.	100	July	29·802	60·3	48·6	54·7	−2·4	71·5	22	39·3	2	54·5	2·7	·350	82
		Aug.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sep.	30·025	60·2	47·9	54·0	+0·9	75·0	1	42·3	24	54·1	2·7	·343	81
CRATHES, (Kincardine.) J. Smith, Pinewood.	145	July	29·771	66·1	46·6	56·4	−0·9	77·0	22	35·0	25	57·1	4·3	·345	74
		Aug.	29·710	65·2	49·1	57·1	+0·8	82·0	31	40·0	26, 31	57·7	3·7	·370	77
		Sep.	29·990	64·1	41·0	52·5	+0·1	85·0	2	27·0	27	52·8	2·9	·319	79
MONTROSE, (Forfar.) (Royal Asylum), Dr John G. Havelock.	200	July	29·713	63·1	48·4	55·8	−1·7	72·0	22	44·0	1	55·0	3·2	·344	80
		Aug.	29·653	63·9	50·3	57·1	+0·2	80·0	31	45·0	23	56·0	2·4	·381	85
		Sep.	29·935	62·6	46·4	54·5	+1·7	80·0	1	37·0	30	53·4	2·6	·337	83
ARBROATH, (Forfar.) James Campbell, "For the Natural History Assoc. of Arbroath."	68	July	29·849	63·0	49·5	56·2	−1·3	73·0	22	44·5	20	56·0	3·1	·363	80
		Aug.	29·795	63·2	51·2	57·2	+0·1	74·5	28	43·0	19	57·4	2·6	·395	84
		Sep.	30·084	62·2	47·0	54·6	+1·1	74·0	1	39·0	17, 30	53·9	2·4	·349	85
DUNDEE, Eastern Necropolis, (Forfar.) J. Carnochan, Curator.	164	July	29·746	66·8	49·6	58·2	−0·5	78·0	22	43·8	20	57·2	3·2	·375	80
		Aug.	29·692	65·0	50·6	57·8	+0·3	79·2	31	43·0	19	58·8	2·4	·391	84
		Sep.	29·974	63·8	47·1	55·4	+1·9	82·3	2	38·4	17	52·8	1·8	·350	87
DUNDEE, Harbour, (Forfar.) J. Thompson, Jr., Harbour Trust.	20	July	29·900	64·4	51·0	57·7	−1·6	74·0	22	43·0	14	...	...	...	...
		Aug.	29·849	64·5	53·2	58·9	−0·1	80·0	31	47·8	19	...	...	...	...
		Sep.	30·134	63·2	50·6	56·9	+2·1	80·2	1	43·0	30	...	...	...	...
LEDNATHIE, (Forfar.) Wm. Morrison, Gardener to Patrick Stormonth Darling.	720	July	29·150	64·0	44·3	54·2	−1·8	70·2	22	37·5	11	54·7	3·2	·341	79
		Aug.	29·098	63·4	47·3	55·4	+0·7	77·0	31	36·0	19	55·4	2·7	·363	83
		Sep.	30·374	63·4	42·3	52·8	+2·0	84·0	1, 2	33·0	17, 30	51·7	2·7	·314	82
BALRUDDERY, (Forfar.) George Davie, Gardener to J. Martin White.	280	July	29·622	65·7	48·0	56·9	−1·1	75·0	22	42·0	21	56·9	3·3	·368	80
		Aug	29·572	65·5	49·4	57·5	+0·5	80·0	31	41·0	16	57·4	2·9	·357	82
		Sep.	29·848	64·7	44·8	54·8	+0·7	84·0	1, 2	37·0	30	54·0	2·9	·337	81
PERTH, (Perth.) John Leslie, Gardener to Henry Coates.	105	July	29·808	66·2	47·6	56·9	−1·7	72·5	12, 22	40·0	11	56·6	3·0	·373	81
		Aug.	29·756	65·8	50·1	58·0	+0·4	79·0	31	40·0	19	57·4	1·7	·420	89
		Sep.	30·044	63·6	44·7	54·1	+0·8	82·5	1	32·0	29	51·8	1·6	·243	88
STRONVAR, (Perth.) D. L. Mackintosh, Gardener to James Carnegie.	300	July	29·470	65·0	44·4	54·7	−2·3	73·0	22	34·0	11	54·2	2·8	·342	81
		Aug.	29·418	65·3	48·8	57·0	+1·0	80·0	6	39·0	6	56·6	2·5	·388	84
		Sep.	29·705	64·9	42·3	53·6	+1·6	82·0	2	33·0	30	51·7	2·9	·310	81
CLATHICK, (Perth.) Alex. Hendry.	300	July	29·603	66·0	47·0	56·5	−1·3	73·0	12	39·8	11	56·2	3·4	·357	79
		Aug.	29·545	66·6	50·6	58·6	+1·8	79·3	31	42·0	6, 19	57·2	2·3	·400	85
		Sep.	29·828	66·0	44·9	55·4	+2·6	85·2	1	35·0	29	52·8	2·4	·335	84
CUPAR, (Fife.) Dr Turnbull, Fife and Kinross District Asylum.	210	July	29·700	65·1	49·4	57·2	−0·6	73·0	22	44·0	20, 21	56·4	3·2	·364	80
		Aug.	29·641	64·5	50·9	57·7	+0·9	80·0	31	42·0	1	56·4	2·4	·385	85
		Sep.	29·926	63·0	45·8	54·4	+1·5	85·0	1	36·0	24	54·5	3·0	·342	80

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
6·8	16	1·76	− 1·21	1·05	31	0	0	0	2	10	0	2	0	6	2	5	0	18	3	8	20	1·0
7·0	12	5·24	+ 2·02	2·21	8	0	0	2	2	14	0	0	2	9	2	6	0	6	4	9	24	1·0
3·8	14	1·19	− 1·43	0·49	3	0	0	0	8	2	0	1	0	2	2	3	0	9	5	5	34	0·7
6·1	18	1·96	− 0·83	1·14	31	0	0	1	1	5	1	6	3	5	0	7	4	12	14	17	0	4·7
6·8	22	6·36	+ 2·95	2·53	8	0	0	2	2	9	2	1	3	8	1	7	7	11	10	15	0	3·8
4·5	12	1·47	− 1·42	0·53	3	0	0	1	4	1	2	4	7	2	0	6	5	7	13	20	0	3·9
6·3	11	2·10	− 0·78	1·16	31	0	0	1	1	10	4	1	0	2	1	14	13	16	7	9	0	2·4
6·6	15	3·29	+ 0·18	0·66	2	0	0	3	2	7	1	1	0	2	4	6	9	20	6	12	3	1·9
3·2	9	0·86	− 1·91	0·27	13	0	0	0	7	2	2	0	1	1	5	4	8	30	7	3	1	2·0
6·1	12	1·76	− 0·81	1·15	31	0	1	0	1	10	6	0	0	0	0	7	27	2	1	10	15	1·5
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3·6	10	1·12	− 1·84	0·47	14	0	0	0	10	4	2	0	6	0	0	3	20	4	1	10	16	1·5
5·9	12	1·50	...	0·82	31	0	0	4	3	10	0	1	0	1	3	11	8	15	11	4	9	2·2
6·1	17	2·74	...	0·69	2	0	0	4	4	0	3	0	5	4	3	7	7	15	7	6	8	1·7
4·0	8	0·61	...	0·26	14	0	0	0	10	5	4	0	1	2	4	7	7	11	12	10	6	1·9
...	9	1·76	− 1·16	1·08	31	0	0	1	...	...	2	2	4	4	7	13	8	15	10	1	0	3·4
...	15	3·91	+ 0·77	0·70	8	0	0	3	...	...	3	0	3	2	2	10	22	9	10	4	0	3·0
...	6	1·12	− 1·61	0·63	13	0	0	0	...	...	1	1	3	3	6	3	13	9	14	9	0	3·3
5·8	12	1·47	− 1·22	0·95	31	0	0	1	0	8	2	0	0	2	5	13	10	12	19	0	1	2·2
6·5	18	4·64	+ 1·76	0·39	21	0	0	3	4	13	2	0	6	6	5	5	7	12	15	3	3	2·3
4·8	12	1·09	− 1·29	0·36	14	0	0	0	7	5	1	1	1	14	0	5	9	10	19	2	0	1·6
8·2	8	0·98	− 1·93	0·63	31	0	0	1	0	15	0	2	1	1	2	19	0	30	6	3	0	2·2
8·1	21	4·69	+ 1·45	1·22	2	0	0	3	1	17	0	0	1	5	0	20	1	22	9	4	0	1·8
7·1	11	1·07	− 1·50	0·26	13	0	0	0	1	10	3	1	0	5	0	12	0	26	10	7	0	1·7
5·0	14	0·81	...	0·52	31	0	0	1	5	6	0	1	0	1	21	3	0	8	27	2	0	2·1
6·2	19	4·35	...	1·21	2	0	0	1	6	14	0	0	0	1	21	1	1	2	32	4	0	1·6
4·0	9	0·81	...	0·20	11	0	0	0	11	4	0	0	1	1	15	0	4	6	30	3	0	1·9
6·1	17	1·62	− 1·96	0·68	31	0	0	1	1	9	0	2	0	0	6	10	9	12	14	11	0	2·6
6·4	23	5·10	+ 1·23	1·20	8	0	1	7	4	8	2	0	6	0	5	16	4	7	19	3	2	2·0
4·7	12	1·52	− 2·10	0·28	11	0	2	1	7	2	2	0	1	0	2	7	8	10	16	5	11	1·8
6·0	11	1·08	...	0·33	31	0	0	1	2	9	0	0	0	0	2	9	1	11	20	2	17	1·1
6·6	19	5·15	...	0·87	2	0	0	2	3	13	0	0	0	0	2	0	4	12	2	2	40	0·7
4·7	9	1·14	...	0·31	11	0	0	0	7	6	0	0	3	1	1	1	0	8	9	7	30	0·8
5·2	15	1·24	− 1·78	0·33	31	0	0	0	7	8	0	0	1	1	1	8	2	2	28	2	17	0·9
6·1	15	4·48	+ 1·15	1·00	2	0	0	1	3	9	0	0	1	2	0	6	5	4	12	1	31	0·6
4·7	9	1·42	− 1·41	0·34	13	0	0	0	8	7	4	0	0	0	1	3	1	1	17	4	33	0·5
...	19	4·50	− 0·11	0·96	17	0	0	0	...	...	1	0	0	0	8	4	0	6	44	0	0	2·5
...	22	7·61	+ 1·72	1·13	2	0	0	1	...	...	0	0	8	4	6	6	4	18	6	10	0	3·8
...	11	3·26	− 3·11	0·95	5	0	0	0	...	...	0	1	0	18	0	4	0	22	0	16	0	3·6
7·8	17	2·16	− 1·05	0·51	30	0	0	1	0	17	0	0	0	3	12	2	6	13	20	6	0	3·0
7·2	22	6·16	+ 2·34	0·84	2	0	0	4	2	16	0	0	1	6	14	9	9	5	11	7	0	2·6
5·6	9	1·35	− 2·09	0·48	11	0	0	0	4	5	2	1	0	13	19	0	3	6	17	2	0	2·4
5·2	10	1·00	− 1·59	0·24	15	...	...	...	0	3	...	0	8	1	20	0	0	4	18	11	0	1·4
6·4	19	4·46	+ 1·25	1·00	2	...	...	...	2	11	...	0	6	1	18	1	0	4	28	4	0	1·4
4·4	9	0·98	− 1·86	0·32	11	...	...	...	0	0	...	0	14	0	4	1	0	3	27	2	9	1·2

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°	°	°	°	°	°	inch.	%
DUNFERMLINE, (Fife.)	225	July	...	...	...	...	...	...	...	...	...	...	..	...	...
Dr J. Macdonald,		Aug.	...	...	...	...	...	...	...	...	...	...	...	...	...
High School.		Sep.	...	...	...	...	...	...	...	...	...	...	...	...	...
BUCHLYVIE, (Stirling.)	125	July	29·796	66·7	47·8	57·2	−0·2	76·0	26	41·0	1, 11	56·7	2·9	·376	82
Rev. John A. Macdonald.		Aug.	29·731	66·9	49·8	58·4	+1·4	80·0	31	41·0	6	58·0	2·2	·415	86
		Sep.	30·027	64·7	44·0	54·4	+0·9	83·5	1, 2	31·0	30	52·2	1·6	·348	89
HELENSBURGH,	18	July	...	63·7	48·2	56·0	−1·5	74·8	27	43·0	23	...	...	...	...
(Dumbarton.)		Aug.	...	63·0	53·0	58·0	+0·9	72·6	31	47·2	6	...	...	...	...
J. R. Wilson, Waterworks.		Sep.	...	62·8	47·2	55·0	+1·5	85·0	3	38·6	17	...	...	...	...
DUMBARTON, (Dumbarton.)	27	July	29·908	65·0	40·4	57·7	−0·6	75·0	27	43·0	12	57·6	3·5	·374	79
William Denny and		Aug.	29·833	66·2	53·4	59·8	+2·0	74·0	31	44·7	6	59·6	3·0	·417	82
Brothers.		Sep.	30·133	65·4	47·2	56·3	+2·0	86·0	2	36·0	30	54·6	2·5	·356	84
LOCHBUIE, (Argyll.)	20	July	29·915	62·0	49·5	55·8	−1·2	70·0	28	44·0	1	54·8	2·7	·354	83
J. T. Mannary, Gardener to		Aug.	29·846	62·5	52·9	57·7	+1·0	71·0	31	45·0	6	56·8	2·2	·397	86
The Maclaine of Lochbuie.		Sep.	30·133	62·3	46·8	54·6	+0·7	81·0	2	38·5	17	53·7	2·6	·341	83
AIRDS, (Argyll.)	15	July	29·917	61·8	47·1	54·5	−2·3	75·0	26	41·0	18	...	...	...	...
Colonel Macfie, C.B., and		Aug.	29·848	62·6	51·1	56·8	+0·0	71·0	1	48·0	19, 26	...	...	...	...
Alexander M'Lachlan.		Sep.	30·135	61·4	47·3	54·4	+0·6	80·0	2	40·0	29	...	...	...	...
POLTALLOCH, Lochgilphead	135	July	29·795	64·5	48·5	56·5	−1·3	75·0	6	39·0	3	56·2	1·9	·396	88
(Argyll.)		Aug.	29·732	66·1	52·4	59·2	+2·3	73·0	31	43·0	5	57·6	2·6	·398	83
D. S. Melville, Gardener.		Sep.	30·022	65·7	47·9	56·8	+2·9	84·0	2	38·0	30	54·0	2·7	·342	82
ROTHESAY, (Isle of Bute.)	76	July	29·860	64·1	48·8	56·4	−1·2	73·0	26	40·0	1	56·4	3·0	·369	81
R. Henderson and D.		Aug.	29·792	65·0	51·5	58·2	+1·5	75·0	31	45·0	6	57·2	2·8	·415	88
Penney, Glenburn		Sep.	30·083	63·0	47·6	55·3	+1·6	81·0	2	38·0	29	53·7	1·7	·364	88
Hydropathic.															
GREENOCK, (Renfrew.)	238	July	29·692	63·4	48·8	56·1	−1·3	74·0	27	42·0	1	56·3	3·3	·365	79
Daniel Macalister, C.E.,		Aug.	29·628	64·4	51·1	57·8	+0·7	72·9	31	42·5	19	57·3	2·3	·401	85
Waterworks.		Sep.	29·914	63·2	47·8	55·5	+2·1	83·2	3	40·0	24	54·1	2·3	·354	84
PAISLEY, (Renfrew.)	107	July	29·819	66·3	50·3	58·3	−0·4	76·2	26	43·8	1	58·1	3·9	·371	76
Donald Maclean,		Aug.	29·758	67·0	52·9	59·9	+1·9	81·0	31	45·0	19	58·9	2·9	·408	82
The Coats Observatory.		Sep.	30·050	65·4	47·9	56·6	+2·2	88·6	1	38·3	29	54·3	2·3	·357	84
BOWHILL, (Ayr.)	978	July	28·899	60·4	45·8	53·1	−0·7	69·5	26	40·0	12, 20	53·6	2·2	·350	85
Alexander Gillespie, C.E.		Aug.	28·842	62·2	49·1	55·6	+2·1	76·5	31	41·0	8	55·4	1·6	·393	90
		Sep.	29·122	60·0	45·4	52·7	+1·6	79·5	1, 2	36·0	24	52·5	2·2	·336	85
KILMARNOCK, (Ayr.)	74	July	29·866	64·4	47·6	56·0	...	74·0	5, 26	36·0	1	57·3	3·3	·374	79
Glenfield & Kennedy, Ltd.		Aug.	29·784	65·6	51·8	58·7	...	78·5	31	40·0	19	58·5	2·5	·414	84
		Sep.	30·092	63·7	44·1	53·9	...	85·0	1, 2	33·0	29	55·2	2·6	·363	84
GLASGOW, Belvidere Hosp.,	54	July	29·874	65·5	49·8	57·7	−1·1	75·8	5	42·7	12	58·6	3·9	·377	77
(Lanark.)		Aug.	29·820	66·2	52·9	59·6	+1·5	80·6	31	45·7	19	59·7	3·1	·416	82
Dr John Brownlee.		Sep.	30·104	63·9	47·0	55·4	+1·1	87·0	1	36·1	24	54·5	2·9	·345	81
GLASGOW, Observatory,	184	July	29·733	63·4	50·4	56·9	−1·4	73·0	26	44·1	1	56·4	3·5	·358	78
(Lanark.)		Aug.	29·674	64·0	53·0	58·5	+1·1	76·2	31	46·2	19	57·6	2·5	·401	84
Prof. Becker, F.R.S.E.		Sep.	29·966	61·6	48·2	54·9	+1·0	83·5	1	36·9	30	53·4	2·4	·342	84
BOTHWELL, (Lanark.)	150	July	...	65·3	48·0	56·7	−1·5	74·0	5	38·0	11	56·6	3·3	·365	79
Dr John T. Wilson.		Aug.	...	66·3	51·9	59·1	+1·9	82·0	31	43·4	19	57·8	2·2	·412	86
		Sep.	...	63·8	45·0	54·4	+0·7	86·6	1	32·0	24, 30	52·1	1·7	·344	88

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5·8	21	2·98	−0·16	0·56	18	0	0	0	1	3	2	1	0	1	8	6	1	12	23	10	1	2·9
7·1	25	5·62	+0·92	0·80	2	0	0	4	2	12	1	0	1	0	7	9	7	16	13	6	3	2·0
4·2	12	2·23	−2·05	0·55	11	0	0	0	5	5	3	1	2	1	4	3	0	7	22	9	12	1·8
...	18	3·08	−0·24	0·65	14	...	...	...	...	...	...	...	6	0	12	6	12	6	20	0	0	...
...	21	4·15	+0·20	0·93	12	...	...	..	...	...	...	...	10	0	12	0	18	0	22	0	0	...
...	11	2·42	−1·71	0·78	5	...	...	...	...	...	...	...	16	0	10	0	10	0	24	0	0	...
...	21	2·84	−0·32	0·52	18	...	...	...	...	...	...	0	2	2	4	10	2	8	16	14	4	1·3
...	25	4·98	+0·95	0·89	12	...	...	...	...	...	...	0	6	0	2	6	2	4	18	8	16	0·3
...	10	1·75	−2·33	0·51	11	...	...	...	...	...	...	0	12	0	0	6	0	0	2	8	32	0·6
6·3	16	5·71	...	1·84	18	0	0	0	3	10	0	1	0	4	4	4	8	20	14	2	6	2·4
7·5	22	6·12	...	1·12	19	0	0	1	3	17	0	0	4	0	10	8	6	18	10	2	4	2·4
4·4	11	6·06	...	1·70	11	0	0	0	6	1	0	1	0	0	16	4	8	14	8	2	8	2·4
6·8	13	4·98	+0·54	...	...	...	...	...	1	11	...	0	7	1	3	4	8	16	21	2	0	2·2
8·1	15	4·74	−0·56	...	...	...	...	...	2	20	...	0	13	0	9	5	10	9	16	0	0	2·3
6·6	...	4·09	−1·57	...	...	...	...	...	3	11	...	0	10	0	5	11	12	4	18	0	0	2·0
6·0	18	3·85	−0·33	0·90	16	1	1	0	3	9	1	0	0	0	0	2	10	6	13	4	27	1·8
7·7	26	5·70	+1·05	0·90	23	0	0	0	2	17	0	0	0	4	0	2	9	11	0	0	36	1·3
5·4	12	4·14	−1·05	1·13	13	0	0	0	3	7	0	0	1	0	2	0	1	9	14	2	31	1·6
5·6	20	3·24	−0·65	0·56	18	0	0	1	4	8	0	0	2	1	8	1	4	9	15	8	14	1·9
6·9	23	5·56	+0·81	0·61	12	0	0	0	2	11	4	0	0	1	7	1	7	7	14	7	18	0·9
4·4	11	3·56	−0·96	1·21	11	0	0	1	9	6	5	1	1	1	13	3	4	7	14	5	12	0·8
7·0	22	3·78	−0·10	1·04	18	0	0	1	0	12	0	0	0	2	2	9	0	17	20	12	0	3·6
8·0	23	4·77	−0·69	0·71	12	0	0	1	1	19	1	0	0	2	4	10	5	14	21	5	1	2·0
6·5	14	3·62	−2·16	0·84	5	0	0	0	1	8	1	0	0	3	3	13	0	12	14	11	4	2·6
6·5	19	2·82	+0·02	0·60	18	0	1	1	1	8	2	0	2	1	5	3	4	9	18	10	10	2·0
7·4	22	6·13	+2·64	0·92	10	0	0	2	2	14	6	0	5	0	7	0	7	2	17	7	17	1·4
6·0	9	2·25	−1·45	0·48	7	0	0	0	7	4	4	0	4	0	5	0	2	6	12	9	22	1·4
7·5	21	3·99	...	0·73	15	...	...	...	0	10	...	...	2	1	0	9	12	14	16	8	0	1·9
7·8	23	5·80	...	0·80	25	...	...	...	0	15	...	...	2	0	0	15	11	14	11	9	0	1·8
6·5	12	2·18	...	0·43	11	...	...	...	0	5	...	...	4	1	7	14	13	12	6	3	0	2·0
...	19	3·83	...	0·75	21	0	0	0	...	...	0	0	0	1	1	5	3	9	36	7	0	1·8
...	20	4·74	...	0·75	24	0	0	0	...	...	0	0	2	1	6	5	13	9	17	8	1	1·7
...	10	1·83	...	0·61	11	0	0	0	...	...	0	0	0	1	14	6	5	11	19	4	0	1·6
6·9	20	1·97	−1·02	0·41	18	0	0	1	1	7	1	0	0	0	7	0	1	9	28	2	15	1·0
7·9	23	4·63	+1·15	0·72	10	0	0	1	0	18	3	0	1	1	12	0	0	8	14	6	20	0·8
6·0	10	1·67	−1·61	0·61	11	0	0	0	1	6	1	0	0	0	10	2	0	0	17	2	29	0·6
7·7	20	2·38	−0·92	0·48	18	0	0	1	0	13	0	0	0	5	2	3	2	15	23	0	12	2·8
7·0	22	4·99	+0·98	0·64	24	0	0	2	1	19	0	0	1	3	7	6	3	10	18	1	13	2·1
6·5	9	1·89	−1·80	0·78	11	0	0	0	1	5	2	0	0	8	7	1	3	13	12	2	14	2·0
...	17	1·76	−0·99	0·39	18	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
...	22	4·55	+1·63	0·72	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	10	1·32	−1·15	0·37	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A.	B.										
				Maximum.	Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
LEADHILLS, (Lanark.) **James M'Farlane.**	1300	July	...	61·0	44·7	52·8	−1·1	70·2	30	37·1	11	52·2	2·6	·323	83
		Aug.	...	62·1	49·3	55·7	+3·0	75·1	31	38·0	21	54·6	2·0	·370	87
		Sep.	...	61·3	43·9	52·6	+3·4	81·9	1	34·0	23	50·7	3·0	·295	80
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. **Dyson**, F.R.S.	441	July	29·458	63·3	49·5	56·4	−0·3	69·4	26	43·7	20	56·0	3·7	·348	77
		Aug.	29·403	63·9	51·9	57·9	+2·0	80·6	31	45·8	19	57·1	3·0	·379	81
		Sep.	29·683	61·7	48·7	55·2	+2·4	85·3	1, 2	38·3	24	54·2	3·1	·335	80
CORSTORPHINE, (Edinburgh.) Dr T. N. **Johnston**, F.R.S.E.	165	July	29·758	64·4	49·5	56·9	−0·5	72·2	26	43·8	12	56·0	3·2	·360	80
		Aug.	29·695	66·0	51·6	58·8	+2·8	83·1	31	43·5	31	57·7	2·8	·395	82
		Sep.	29·985	64·5	46·1	55·3	+2·3	87·5	1	34·5	29	52·9	2·5	·333	84
LEITH, (Edinburgh.) **James Bolam**, Nautical College, and **George Redpath.**	76	July	29·849	65·0	51·6	58·3	−0·2	73·1	26	46·7	20	57·4	3·4	·373	79
		Aug.	29·787	66·1	52·8	59·5	+1·8	82·9	31	48·3	19	58·0	2·4	·410	85
		Sep.	30·078	62·8	48·9	55·8	+1·5	80·1	1	38·0	24	55·5	3·3	·349	79
DALKEITH, (Edinburgh.) J. **Whytock**, Gardener to the Duke of Buccleuch.	190	July	29·738	65·6	49·1	57·4	−0·6	72·5	26	43·0	1	57·8	3·8	·369	77
		Aug.	29·674	65·7	51·3	58·5	+1·5	82·0	31	46·0	19	58·2	3·3	·387	80
		Sep.	29·958	64·1	46·3	55·2	+1·8	88·5	1	32·5	24	54·4	2·9	·343	81
SMEATON, (Haddington.) **John Black**, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	July	29·820	69·4	48·8	59·1	−0·3	77·0	7	44·0	20, 21	58·6	3·1	·399	81
		Aug.	29·768	67·1	50·3	58·7	+0·6	79·5	31	42·0	27	58·1	2·4	·412	84
		Sep.	30·040	64·9	45·7	55·3	+1·4	86·0	2	36·0	24	53·4	2·1	·350	86
HADDINGTON, (Haddington.) D. **Macrae**, Superintendent, District Asylum.	...	July	29·680	66·0	49·8	57·9	−0·2	72·0	7, 26	44·0	1	58·3	3·3	·376	77
		Aug.	29·616	65·7	51·8	58·8	+1·8	85·0	31	40·0	25	58·6	2·6	·414	84
		Sep.	29·894	64·7	47·7	56·2	+2·6	88·0	2	36·0	30	55·0	3·0	·349	81
MARCHMONT, (Berwick.) **John A. Wood**, Gardener.	500	July	...	64·9	46·9	55·9	−1·0	71·0	22, 29	41·0	21	56·3	3·3	·361	79
		Aug.	...	65·4	49·4	57·4	+1·2	80·0	31	45·0	6, 31	57·9	2·8	·397	83
		Sep.	...	64·3	45·7	55·0	+2·8	87·0	1, 2	37·0	14, 30	55·5	3·0	·357	81
DUNS CASTLE, (Berwick.) **James Redpath**, Gardener to F. S. Hay.	500	July	29·410	66·4	47·2	56·8	−0·1	75·0	22	40·0	21, 25	56·0	3·2	·360	80
		Aug.	29·350	67·6	49·2	58·4	+2·4	81·0	31	44·0	6, 26	57·0	2·2	·399	86
		Sep.	29·634	66·4	44·6	55·5	+3·2	89·0	1, 2	34·0	24, 30	53·5	2·6	·339	82
BROOMLANDS, (Roxburgh.) **James Brunton.**	205	July	29·734	67·0	47·7	57·4	−0·6	73·0	22	42·0	1, 21	57·9	3·7	·374	77
		Aug.	29·668	67·8	50·1	59·0	+1·9	83·0	31	44·0	6, 26, 31	58·2	2·2	·418	86
		Sep.	29·957	65·9	45·2	55·6	+2·3	88·0	1, 2	32·0	24, 30	53·8	2·7	·342	82
WOLFELEE, (Roxburgh.) **Arthur Hume**, Gardener to J. T. S. Elliot.	537	July	29·376	67·1	46·9	57·0	+0·1	73·0	5, 29	37·0	11	56·5	3·3	·363	79
		Aug.	29·315	67·9	49·8	58·8	+2·7	82·0	31	43·0	26	57·7	2·3	·409	85
		Sep.	29·589	64·9	44·0	54·4	+1·8	88·0	1, 2	31·0	24, 30	52·3	2·6	·322	81
DRUMLANRIG, (Dumfries.) **David Inglis**, Gardener to the Duke of Buccleuch.	191	July	29·741	65·3	46·6	56·0	−2·0	73·0	5, 26	38·0	11	56·6	3·0	·373	81
		Aug.	29·690	66·6	50·2	58·4	+1·6	78·0	31	41·2	31	57·3	2·6	·394	83
		Sep.	29·976	64·1	44·0	54·1	+0·8	84·0	1	30·0	29, 30	51·6	2·2	·325	85
DUMFRIES, (Dumfries.) Rev. **William Andson.**	60	July	29·894	68·6	48·3	58·5	−0·6	78·0	5	39·5	16	59·4	4·4	·376	74
		Aug.	29·827	68·8	52·3	60·6	+2·4	82·0	31	44·0	19	59·2	2·9	·414	83
		Sep.	30·129	67·5	45·2	56·3	+1·7	89·0	2	32·7	29	54·8	3·1	·345	80
CARGEN, (Kirkcudbright.) **Alex. Peacock**, Gardener to Colonel Dudgeon.	85	July	29·881	67·4	47·9	57·7	−0·9	75·0	5	40·0	11, 12	59·1	3·0	·409	82
		Aug.	29·815	67·9	52·5	60·2	+2·5	80·0	31	45·0	6, 26	60·1	1·8	·462	89
		Sep.	30·092	65·5	45·5	55·5	+1·0	85·0	2	32·0	29	55·6	2·0	·386	87
CALLY, (Kirkcudbright.) **Wm. Thomson.**	120	July	...	66·1	45·8	56·0	−2·1	70·2	10	40·4	10	...	...	...	...
		Aug.	29·766	68·1	50·0	59·0	+2·2	80·2	31	40·5	19	57·9	2·2	·414	86
		Sep.	30·054	66·0	44·0	55·0	+1·1	82·8	1	33·9	29	53·8	2·0	·359	87

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0-10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0-12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	21	4·18	...	1 11	16	0	0	0	...	...	0	3	...	...	...	...	...	...	...	...	...	...
...	26	7·02	...	1·47	2	0	0	0	...	...	0	0	...	...	...	...	...	...	...	...	...	...
...	9	1·47	...	0·35	11, 14	0	0	0	...	...	0	4	...	...	...	...	...	...	...	...	...	...
5·8	17	1·79	−0·81	0·54	2	0	0	1	2	5	4	2	1	5	5	3	8	16	22	1	1	3·6
6·2	18	5·08	+2·36	0·95	2	0	0	3	2	9	4	0	1	2	7	1	14	9	14	5	9	2·4
4·2	8	0·55	−1·62	0·13	11, 14	0	0	0	7	2	3	1	2	5	3	1	5	16	17	3	8	2·2
5·1	23	1·53	...	0·25	14	0	0	1	4	7	1	0	0	0	10	0	2	6	35	1	8	1·9
6·6	22	5·43	...	0·81	8	0	0	2	3	12	0	0	2	0	15	0	2	3	25	2	13	1·2
3·2	10	0·62	...	0·19	11	0	0	0	9	3	1	0	5	0	6	0	1	1	29	3	15	1·3
7·6	22	1 88	−1·05	0·33	2	0	0	1	2	15	3	1	0	2	14	4	6	8	20	6	2	3·3
7·0	16	5·06	+2·06	0·73	2	0	0	2	2	11	1	0	0	8	12	4	0	12	22	2	2	1·6
4·3	10	0·84	−1·40	0·23	13	0	0	0	10	6	2	0	0	4	4	0	4	14	24	8	2	2·8
6·3	12	1·18	...	0·25	14	0	0	1	2	8	1	0	3	1	1	1	4	18	30	7	2	1·6
6·6	16	5·17	...	0·91	2	0	0	2	3	13	0	0	3	1	2	6	9	8	24	8	1	1·1
3·7	6	0·14	...	...	...	0	0	0	9	4	1	0	1	1	1	6	10	14	25	1	1	1·1
5·6	7	1·14	−1·93	0·39	31	0	0	0	3	0	2	3	1	0	16	3	24	7	7	4	0	1·2
5·4	19	5·56	+3·61	1·08	13	0	0	2	1	5	2	1	0	2	16	5	28	6	5	0	0	1·0
3·3	7	0·93	−1·36	0·15	12, 13	0	0	0	8	3	4	1	1	0	12	0	14	16	15	2	0	1·0
4·6	10	1·53	...	0·41	14	0	0	1	7	8	0	0	2	0	4	3	2	3	42	6	0	1·5
5·5	17	5·73	...	1·00	2	0	0	3	7	11	0	0	0	1	8	4	1	1	41	6	0	1·2
3·1	8	0·55	...	0·15	11, 13	0	0	0	14	6	0	1	1	1	14	1	0	4	34	5	0	1·2
5·5	12	2·84	−0·50	0·89	31	0	0	3	8	9	0	3	11	1	9	2	7	13	16	3	0	3·2
6·3	21	5·52	+1·81	0·87	22	0	0	8	3	10	1	2	5	2	21	6	6	11	11	0	0	2·8
4·2	5	0·50	−2·41	0·18	13	0	0	0	10	8	0	2	18	2	7	2	5	1	23	2	0	2·6
6·6	14	2·27	−0·79	0·81	31	0	0	4	2	11	2	0	0	1	1	4	6	28	15	7	0	1·0
7·2	21	4·73	+1·62	0·64	22	0	0	6	3	15	1	0	0	2	2	0	4	40	4	10	0	0·7
4·5	8	0·57	−2·28	0·23	14	0	0	0	9	7	2	0	0	13	2	2	3	20	8	12	0	0·7
6·0	14	2·43	−0·39	0·70	31	0	0	2	0	1	0	0	0	1	3	8	6	37	5	1	1	3·2
6 8	19	4·75	+1·67	0·68	8	0	0	4	2	10	0	0	0	7	3	4	3	41	1	0	3	2·8
4·8	7	0·48	−1·94	0·13	13	0	0	0	3	0	0	1	0	7	10	1	3	32	1	3	3	2·6
6·7	15	2·16	−0·93	0·49	22	0	0	1	0	5	0	0	1	2	1	8	0	14	29	6	1	1·5
6·8	21	4·86	+1·45	0·77	10	0	0	2	1	13	0	0	4	4	0	2	5	25	13	9	0	1·4
4·7	7	0·60	−2·47	0·24	14	0	0	0	6	7	0	0	9	8	0	0	6	18	14	5	0	1·0
...	20	2·86	−0·51	0·52	23	0	0	0	...	...	0	...	8	0	0	0	9	23	1	21	0	...
...	20	5·66	+1·74	1·19	2	0	0	1	...	...	0	...	4	0	0	1	8	29	4	16	0	...
...	7	0·76	−3·12	0·33	11	0	0	0	...	...	0	...	3	0	0	2	5	21	5	24	0	...
...	19	2·17	−0·97	0·56	22	0	0	0	...	...	0	0	0	0	3	14	6	12	17	8	2	2·6
...	24	6·73	+2·74	1·70	2	0	0	1	...	...	1	0	0	3	4	10	5	17	8	13	2	2·4
...	8	0·70	−2·87	0·29	13	0	0	0	...	...	2	0	2	8	2	6	4	8	14	12	4	2·1
5·6	11	2·45	−0·70	0·66	22	0	0	0	0	2	0	0	3	0	0	3	19	16	9	12	0	2·0
6·3	18	8·74	+4·69	1·62	2	0	0	0	0	5	0	0	0	2	0	6	5	10	37	2	0	0·8
4·6	6	1·08	−2·67	0·29	13	0	0	1	1	1	0	0	2	0	10	3	8	8	11	18	0	0·9
4·5	19	2·14	−1·43	0·36	18	0	0	1	1	3	0	0	4	3	8	9	10	14	11	9	4	1·6
4·7	21	3·41	−1·31	0·54	2	0	0	1	5	6	0	0	1	4	1	9	5	19	2	21	0	1·4
...	9	1·18	−3·46	0·50	13	0	0	0	...	...	0	2	1	15	7	18	4	8	0	7	0	1·4

BRIGHT SUNSHINE.

STATIONS.		1906.	SUNSHINE.		
		Months.	Total Observed.	Difference from Average.	Percentage of Possible.
			hours.	hours.	%
BALTASOUND,	Shetland.)	July	183·7	...	34
		Aug.	113·2	...	24
		Sept.	103·0	...	27
DEERNESS,	(Orkney.)	July	167·1	+28·2	31
		Aug.	123·3	+ 4·2	26
		Sept.	174·8	+66·2	46
INVERNESS,	(Inverness.)	July	187·2	+41·4	35
		Aug.	131·1	+13·6	28
		Sept.	188·4	+99·5	50
FORT AUGUSTUS,	(Inverness.)	July	133·0	+32·6	25
		Aug.	87·6	− 2·7	19
		Sept.	133·4	+51·0	35
CRATHES,	(Kincardine.)	July	175·0	...	33
		Aug.	141·8	...	31
		Sept.	186·7	...	50
BALRUDDERY,	(Forfar.)	July	187·6	...	36
		Aug.	140·0	...	30
		S-pt.	174·7	...	46
OBAN,	(Argyll.)	July	165·7	...	32
		Aug.	112·9	...	24
		Sept.	164·6	...	44
PAISLEY,	(Renfrew.)	July	184·9	+40·5	36
		Aug.	122·6	−21·4	27
		Sept.	144·1	+37·1	38
GLASGOW,	(Lanark.)	July	178·2	+34·6	35
		Aug.	111·6	−20·7	24
		Sept.	138·8	+38·8	37
EDINBURGH,	(Edinburgh.)	July	205·7	+29·8	39
		Aug.	134·7	−26·7	29
		Sept.	185·1	+53·5	48
DUNS CASTLE,	(Berwick.)	July	189·5	...	37
		Aug.	142·3	...	31
		Sept.	192·5	...	51
MARCHMONT,	(Berwick.)	July	205·9	+34·5	40
		Aug.	152·6	+ 4·1	33
		Sept.	190·1	+75·2	51

UNDERGROUND TEMPERATURE.

STATIONS.	1906.	UNDERGROUND TEMPERATURE.				
	Months.	Depth in Inches.				
		3	12	22	36	48
		°	°	°	°	°
DUNROBIN, (Sutherland.)	July	55·5	58·0	57·3	...	...
	Aug.	56·0	58·7	58·1	...	...
	Sept.	54·2	56·3	56·5	...	...
ARBROATH, (Forfar.)	July	56·0	55·4	55·0	...	...
	Aug.	57·8	55·9	55·4	...	...
	Sept.	53·8	54·5	54·7	...	...
POLTALLOCH, (Argyll.)	July	59·3	60·9	60·6	...	...
	Aug.	59·6	60·8	60·6	...	...
	Sept.	56·8	59·2	59·0	...	...
ROTHESAY, (Bute.)	July	...	...	...	...	53·9
	Aug.	...	...	...	...	55·0
	Sept.	...	...	...	...	54·3
PAISLEY, (Renfrew.)	July	58·3	57·1	57·1	...	...
	Aug.	58·6	57·8	57·9	...	...
	Sept.	53·7	54·7	56·6	...	...
CORSTORPHINE, (Edinburgh.)	July	56·9	57·9	57·6	55·2	54·2
	Aug.	58·0	58·2	57·9	56·4	55·4
	Sept.	52·2	56·3	56·6	55·8	55·6
SMEATON, (Haddington.)	July	61·2	60·9	60·2	...	...
	Aug.	60·0	60·2	59·5	...	...
	Sept.	55·4	57·0	56·9	...	...
MARCHMONT, (Berwick.)	July	60·2	58·3	58·1	...	...
	Aug.	59·9	58·7	58·9	...	...
	Sept.	54·7	55·7	56·9	...	...

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 31st DECEMBER 1906.

By Dr Buchan, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 59 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country:—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N.; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1906.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
Oct.	29·699	54·2	41·9	48·0	68·0	21·0	47·9	1·8	·289	88	23	5·91	7·0	*
Nov.	29·771	48·9	40·2	44·6	68·0	26·0	44·2	1·7	·253	87	20	4·74	7·2	*
Dec.	29·830	42·1	31·8	37·0	59·3	4·0	37·0	1·5	·191	87	19	3·92	6·9	*

1906.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS.										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
Oct.	47·8	49·5	50·7	51·5	52·0	4	4	7	7	8	13	10	5	4	2·5	2	1
Nov.	43·7	44·7	45·6	46·5	47·6	4	7	6	4	4	12	13	7	3	2·8	4	1
Dec.	37·6	39·7	41·7	42·9	44·4	8	2	2	2	4	11	15	13	5	2·7	6	1

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these returns are compared with the averages of 1856–1905, during the same months, they show the following characteristics and differences:—

OCTOBER 1906—
Mean Barometric Pressure, 29·699 inches; less than the average of 1856–1905 by 0·115 inch.
Mean Temperature, 48°·0; greater by 1°·5.
Mean Daily Range of Temperature, 12°·3; greater by 0°·2.
Mean Humidity, 88 per cent.; greater by 1 per cent.
Rain, Number of Days, 23; greater by 6 days.
Rain, Depth in Inches, 5·91; greater by 1·87 inch.
Wind, Mean Force (on Scale of 0–12), 2·5; less by 0·3.
Wind, Direction of: a 3 days' excess of winds from a Southerly quarter.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·0; greater by 0·6.

NOVEMBER 1906—
Mean Barometric Pressure, 29·771 inches; less than the average of 1856–1905 by 0·063 inch.
Mean Temperature, 44°·6; greater by 3°·7.
Mean Daily Range of Temperature, 8°·7; less by 1°·7.
Mean Humidity, 87 per cent.; less by 1 per cent.
Rain, Number of Days, 20; greater by 3 days.
Rain, Depth in Inches, 4·74; greater by 0·94 inch.
Wind, Mean Force (on Scale of 0–12), 2·8; being the average.
Wind, Direction of: a 2 days' excess of winds from S.W. and W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·2; greater by 0·7.

DECEMBER 1906—

Mean Barometric Pressure, 29·830 inches; greater than the average of 1856–1905 by 0·050 inch.
Mean Temperature, 37°·0; less by 1°·1.
Mean Daily Range of Temperature, 10°·3; greater by 0°·8.
Mean Humidity, 87 per cent.; less by 1 per cent.
Rain, Number of Days, 19; greater by 2 days.
Rain, Depth in Inches, 3·92; less by 0·21 inch.
Wind, Mean Force (on Scale of 0–12), 2·7; less by 0·1.
Wind, Direction of: a 6 days' excess from between W. and N.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·9; greater by 0·4.

OCTOBER 1906—

Hence the month of OCTOBER 1906 was characterised by a low mean pressure; a high mean temperature, with a fractionally high mean daily range; a slightly high mean humidity; a very high mean rainfall, with a large number of days with rain; a considerable excess of winds from between S.E. and S.W.

The mean barometric pressure was 29·699 inches, or 0·115 inch below the normal. At Leith the mercury was above 30 inches only on 24th and 25th, the extremes there being 30·333 inches on 25th and 29·218 inches on 29th. Generally the atmospheric conditions of the month were very unsettled, depressions being frequent. Especially notable was one on 18th and 19th which pursued a North-Easterly course in the North Sea and brought very heavy rains to Eastern districts.

The mean temperature was 48°·0, or 1°·5 above the normal, the days being 1°·6 and the nights 1°·4 above their respective averages. The excess was well-marked in all districts, but especially to the South of the Forth and Clyde. The early part of the month was extremely mild for the time of year, highest temperatures as a rule occurring between 5th and 7th, the actual highest being 68°·0 at Haddington on 5th and at Drumlanrig on 6th, and 67°·5 at Lairg on 7th. Lowest temperatures occurred on 14th or 30th, the actual lowest being 21°·0 at Lairg on 30th, and the only interruptions to the mildness of the month were about these dates. A range of less than 1°·0 at Leith on 12th is noteworthy (maximum 51°·5, minimum 50°·7).

The mean rainfall was 5·91 inches, or 46 per cent. above the normal. The month was not so wet as October 1903, but was with that exception the wettest October since 1874. In the Orkneys, the Hebrides and the Northern counties there was a shortage, but in most districts the excess was large, especially in the Lothians and Berwickshire, which received considerably more than twice their average rainfall. The number of rain days was large, and very heavy falls occurred on 11th, 18th and 19th, or from 26th to 28th. Thus on 11th Leith registered 1·20 inch and Buchlyvie 1·33 inch; on 18th Duns 1·85 inch; on 19th Smeaton as much as 3·28 inches; and Gordon Castle, Loanhead and Balmoral more than 2 inches; on 26th Dumbarton 1·46 inch; on 27th Fort William 1·29 inch; and on 28th Leadhills 2·11 inches. At few stations did a spell of three consecutive dry days occur.

Snow fell in places about 14th and 19th.

Thunder at Drumlanrig on 16th, and Kelso (Broomlands) on 22nd.

A good deal of fog, especially in East and North, at the beginning of the month, from 10th to 12th, and on 21st and 22nd.

Sunshine of variable amount, but on the whole deficient.

A gale from N.E. was general in East and North on 19th, and appears to have been most severely felt in East Lothian, where the accompanying rain storm was exceptionally heavy. A southerly gale was experienced in North and West on 26th.

NOVEMBER 1906—

Hence the month of NOVEMBER 1906 was characterised by a somewhat low mean pressure; a very high mean temperature, with a rather low daily range; a humidity about the average; a high mean rainfall, with a rather large number of rain days; an excess of winds from S.W. and W.

The mean barometric pressure was 29·771 inches, or 0·063 inch below the normal. There were two periods of fairly high pressure, one from about 9th to 16th, the other from about 22nd to 27th, whilst the mercury was lowest about 2nd, 17th and 29th. At Leith the sea-level extremes were 30·474 inches on 10th and 28·964 inches on 17th.

The mean temperature was 44°·6, or 3°·7 above the normal, the days being 2°·8 and the nights 4°·5 above their respective averages. The month was the mildest November since 1899, though November 1902 was almost as mild. There were only very brief occurrences of cold weather,—about 10th or between 17th and 21st, the absolute minimum of 26°·0 being registered at several stations and on various days:—at Buchlyvie on 10th, at Balmoral on 11th, at Lairg on 17th, and at Balmoral and Crathes on 21st. From 22nd to 24th, and to a more moderate degree thereafter, unusually high temperatures prevailed under the influence of South-Westerly winds,

[*Continued on page* 216.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	Oct.	29·412	...	...	...	...	...	...	...	...	47·4	...	...	...
		Nov.	29·432	...	...	...	...	...	...	...	...	45·4	...	...	...
		Dec.	29·357	...	...	...	...	...	...	...	...	38·5	...	...	...
BALTASOUND, (Shetland.) T. Edmondston Saxby, L.R.C.S.	50	Oct.	29·624	50·9	43·2	47·1	...	56·0	8, 9	32·5	19	47·9	1·5	·296	90
		Nov.	29·655	47·9	41·6	44·8	...	55·0	23	32·5	17	45·9	0·9	·288	94
		Dec.	29·586	42·4	33·9	38·2	...	50·0	7	16·0	31	38·7	0·8	·220	94
LERWICK, (Shetland.) Capt. G. Allison, Harbour Master.	30	Oct.	29·638	51·8	44·1	48·0	+0·8	57·0	9	34·0	19	47·4	2·1	·277	85
		Nov.	29·674	48·7	42·3	45·5	+1·6	55·0	22	35·0	16, 30	45·5	2·5	·248	82
		Dec.	29·610	43·5	34·9	39·2	−2·7	50·0	2, 19	24·0	25	38·9	1·4	·210	90
DEERNESS, (Orkney.) M. Spence, Schoolhouse.	172	Oct.	29·476	51·6	43·4	47·5	+1·0	57·6	7	33·5	21	48·2	1·8	·293	88
		Nov.	29·533	48·3	41·7	45·0	+2·7	57·6	23	35·0	10, 16	45·2	1·8	·260	87
		Dec.	29·520	42·7	34·4	38·6	−1·5	51·6	7	23·0	25	39·0	1·7	·205	86
KIRKWALL, (Orkney.) William T. Sinclair.	30	Oct.	29·616	52·7	43·6	48·2	+1·1	63·2	1	35·0	14	48·0	1·7	·292	88
		Nov.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dec.	...	...	...	...	...	...	...	...	...	...	...	...	...
DUNROBIN, (Sutherland.) D. Melville, Gardener, Dunrobin Castle.	16	Oct.	29·644	53·3	41·6	47·4	+0·4	64·0	7	28·0	30	47·6	1·9	·284	87
		Nov.	29·714	49·2	41·0	45·1	+3·4	62·0	23	31·0	21	44·8	1·6	·257	88
		Dec.	29·745	42·7	32·2	37·4	−1·5	54·0	1, 17	18·0	31	37·2	1·4	·194	87
LAIRG, (Sutherland.) Rev. John K. Maclean, M.A.	390	Oct.	29·218	55·0	37·7	46·4	+0·8	67·5	7	21·0	30	45·4	1·6	·266	88
		Nov.	29·291	48·5	37·8	43·1	+3·4	68·0	23	26·0	17	42·7	1·3	·246	89
		Dec.	29·322	40·3	28·6	34·5	−2·5	54·8	17	8·0	31	35·0	0·8	·188	92
GLENCARRON, (Ross.) D. D. Munro.	504	Oct.	29·112	53·2	40·1	46·7	+1·4	65·1	7	26·0	30	46·4	2·2	·264	84
		Nov.	29·202	47·7	38·7	43·2	+2·4	60·1	23	28·4	10	43·6	2·0	·241	85
		Dec.	29·255	41·6	32·6	37·1	−0·8	50·8	2	14·4	29	36·6	1·6	·186	86
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	Oct.	29·482	...	...	...	...	...	...	...	...	49·6	...	...	...
		Nov.	29·594	...	...	...	...	...	...	...	...	46·0	...	...	...
		Dec.	29·642	...	...	...	...	...	...	...	...	41·6	...	...	...
KINGUSSIE, (Inverness.) Dr Walter de Watteville.	828	Oct.	28·791	53·0	38·8	45·9	+2·1	64·2	1	24·6	14	45·6	2·1	·259	85
		Nov.	28·860	46·7	37·3	42·0	+3·6	58·1	23	28·0	21	42·4	2·0	·229	85
		Dec.	28·914	39·4	28·5	34·0	−1·4	52·3	2	9·9	29	34·4	1·4	·171	85
INVERNESS, (Inverness.) Thos. Wallace, High School.	114	Oct.	29·548	53·8	42·2	48·0	+1·1	64·8	7	29·2	30	48·3	2·3	·284	84
		Nov.	29·628	49·4	41·2	45·3	+3·6	60·2	23	32·2	21	45·4	2·1	·256	85
		Dec.	29·694	43·1	33·9	38·5	−0·2	57·8	2	12·6	30	38·4	1·8	·197	86
FORT AUGUSTUS, (Inverness.) Rev. Cyril von Dieckhoff, St Benedict's Priory.	73	Oct.	29·604	53·6	42·1	47·3	+1·1	64·0	7	28·3	14	47·4	1·8	·284	87
		Nov.	29·667	48·5	41·9	45·2	+3·7	58·9	23	31·2	21	45·2	1·3	·273	90
		Dec.	29·756	42·2	32·3	37·3	−1·6	53·1	2	11·0	29	37·2	1·3	·196	88
FORT WILLIAM, (Inverness.) W. T. Kilgour.	175	Oct.	...	54·2	41·5	47·8	+0·2	64·0	22	28·3	14	48·1	1·7	·294	88
		Nov.	29·734	49·3	41·4	45·3	+3·2	59·6	22	30·5	10	45·1	1·6	·263	88
		Dec.	29·813	42·6	30·5	36·6	−3·2	52·6	2	13·0	29	38·0	1·2	·204	89
GORDON CASTLE, (Banff.) C. Webster, Gardener to the Duke of Richmond and Gordon.	107	Oct.	29·562	55·0	40·6	47·8	+1·0	65·0	7	27·3	30	48·5	2·7	·277	82
		Nov.	29·626	50·1	39·5	44·8	+3·3	63·0	23	30·0	21	45·2	2·4	·247	83
		Dec.	29·654	43·6	32·5	38·1	−0·7	56·0	2, 3	14·0	31	38·9	2·7	·186	80
BALMORAL (Aberdeen.) J. Michie, M.V.O., and John M. Troup.	927	Oct.	28·702	51·7	38·2	45·0	+2·1	61·0	17	23·0	30	45·1	1·9	·256	85
		Nov.	28·744	47·0	36·9	42·0	+3·5	58·0	23, 24	26·0	11, 21	41·3	1·8	·225	87
		Dec.	28·774	39·5	27·5	33·5	−1·0	55·0	2	7·0	31	33·3	2·4	·142	75

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
7·6	26	...	...	...	...	1	0	0	8	15	7	1	5	8	4	5	27	7	4	2	0	3·8
8·1	16	...	...	...	...	0	0	0	0	14	0	0	6	2	15	3	6	6	15	7	0	4·4
·4	24	...	...	...	...	8	6	1	0	10	2	4	17	2	1	3	5	15	11	8	0	3·2
6·6	27	5·21	...	0·90	5	0	2	0	0	9	5	1	6	4	5	8	20	10	4	4	1	2·9
6 3	27	8·74	...	0·54	22	1	1	0	0	7	0	1	7	6	9	6	4	8	15	5	0	2·9
6 8	30	5·37	...	0·66	4	8	6	0	0	10	2	4	17	2	1	8	5	15	11	8	0	3·0
...	21	4·43	...	0·58	17	0	0	0	...	...	6	6	7	5	2	6	19	14	8	1	0	4·0
...	27	8·15	...	0·43	26	0	0	0	...	...	0	3	4	6	5	6	8	8	8	18	2	4·4
...	27	4·72	...	0·77	27	7	0	0	...	...	0	5	17	1	0	0	7	15	6	14	2	4·8
7·5	21	2·85	– 1·03	0·38	12	0	1	0	1	17	7	3	...	...	...	...	...	...	...	...	..	...
8 0	21	4·83	+ 0·98	0·61	17	0	1	0	2	20	0	5	6	7	9	6	5	8	15	4	0	6·0
7·3	24	4·87	+ 1·00	0·83	4	13	4	0	1	15	0	14	12	0	0	1	14	9	18	8	0	5·9
...	20	2·95	– 1·27	0·42	15	...	...	...	...	...	...	...	4	4	8	8	18	8	10	2	0	4·9
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	12	2·44	– 0·82	1·05	19	0	0	0	...	...	2	1	3	3	15	7	7	8	9	8	2	2·0
...	20	8·66	+ 5·46	1·77	19	0	0	0	...	...	0	4	9	3	14	4	4	9	8	6	3	3·0
...	19	3 22	– 0·11	0·52	15	5	0	0	...	...	0	3	16	2	2	2	3	0	11	26	0	2·4
6·2	24	2·63	– 1·28	0·52	19	1	0	0	4	12	4	5	6	0	13	10	6	3	8	7	9	3·6
6·8	29	8·11	+ 6·38	1·47	17	2	1	0	3	11	1	8	7	6	8	2	2	6	11	12	6	4·1
7·2	21	? 3·76	– 0·14	0·62	2	13	1	0	1	11	0	7	9	1	5	6	2	3	18	9	9	3·4
6·5	23	8·78	– 0·63	0·93	26	0	0	0	4	12	1	0	12	0	21	0	0	0	28	0	1	2·7
8·1	29	11·38	+ 2·28	1·43	21	1	0	1	2	20	0	1	11	1	15	0	0	0	33	0	0	3·6
8·3	28	13·72	+ 3·11	3·65	2	4	0	0	0	21	1	1	10	0	14	0	0	0	38	0	0	4·2
7·4	22	4·34	– 0·31	0·52	30	7	0	0	0	11	0	6	6	8	7	6	12	8	12	8	0	4·8
9·1	22	4·41	– 0·45	0·84	23	6	1	0	0	22	6	6	4	10	6	7	3	9	14	7	0	4·7
8·9	27	5·12	– 0·42	0·58	2	14	1	0	0	19	7	8	13	0	2	3	3	16	19	6	0	5·4
7·4	23	3·79	+ 0·70	0·93	19	1	0	0	0	14	..	...	...	...	...	...	...	...	...	..	...	...
8·5	22	4·13	+ 1·18	1·10	19	2	0	0	0	17	...	...	...	...	...	...	...	...	...	...	...	...
7·2	19	? 2·85	– 0·08	...	...	10	0	0	0	13	...	...	...	...	...	...	...	...	...	...	...	...
6·7	19	3·64	+ 1·16	1·65	19	2	1	0	2	11	5	1	7	6	5	2	2	20	18	1	1	1·4
7·9	18	3·55	+ 1·11	0·60	29	1	0	0	1	15	3	3	2	11	6	2	3	16	15	5	0	1·8
8·0	16	2 05	– 0·41	0·60	27	11	0	0	0	14	4	4	9	0	0	0	0	23	24	6	0	2·4
6·8	24	6·89	+ 2·59	1·42	19	2	0	0	0	11	3	1	3	12	1	1	5	14	7	1	18	2·0
8·5	23	4·54	– 0·02	0·85	29	3	0	0	0	20	1	4	3	16	0	0	1	25	3	2	10	3·0
7·4	26	5·30	- 0·47	0·88	2	11	1	1	0	15	2	2	7	0	0	0	2	32	4	1	16	2·2
8·1	27	8·87	+ 1·06	1·29	27	0	0	0	0	16	1	2	0	5	5	0	0	25	6	1	20	1·2
8·7	23	7·29	– 0·31	1·39	29	2	1	0	0	22	1	1	0	13	3	0	0	19	14	0	11	1·6
8·6	25	8·69	– 1·64	1·43	2	8	2	1	0	24	3	1	3	3	3	0	2	18	15	2	16	1·3
7·2	19	4·60	+ 1·30	2·12	19	0	0	0	0	12	0	0	5	4	1	15	16	16	1	4	0	2·0
7·8	18	5·80	+ 2·94	1·36	19	0	0	0	0	14	0	0	4	7	3	8	10	23	1	4	0	2·2
6·9	21	2·63	– 0·13	0·45	12	7	1	0	0	8	0	2	1	1	0	3	14	26	2	15	0	2·2
8·4	24	5·51	...	2·10	19	2	0	0	0	17	1	0	8	1	8	3	13	3	24	2	0	1·2
7·9	24	8·08	...	2·50	19	5	0	0	0	15	2	0	3	7	10	8	8	7	14	8	0	1·3
7·7	21	3·06	...	0·91	27	12	0	0	0	15	1	2	21	0	0	1	3	2	25	10	0	1·7

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
LOANHEAD, (Aberdeen.) **Alex. Farquharson.**	747	Oct.	28·886	52·7	39·9	46·3	+1·7	65·8	5	24·3	30	46·8	1·5	·284	89
		Nov.	28·939	47·5	33·3	42·9	+4·3	57·4	23	27·2	21	43·0	1·2	·251	90
		Dec.	28·971	41·1	28·8	35·0	−1·3	56·2	3	12·4	29	35·8	1·5	·183	87
TILLYPRONIE, (Aberdeen.) **Robt. Littlejohn,** Gardener to Sir John F. Clark, Bt.	1120	Oct.	28·490	51·5	38·1	44·8	+1·3	61·8	7	26·0	30	44·5	1·8	·253	87
		Nov.	28·546	47·1	36·3	41·7	+3·9	57·7	22	27·0	21	41·1	1·5	·217	88
		Dec.	28·570	39·8	27·9	33·8	−1·1	56·0	2	14·5	30	33·4	1·5	·161	84
ABERDEEN, (Aberdeen.) **Peter Harper,** Superintendent, Duthie Park.	44	Oct.	29·656	53·9	41·7	47·8	+0·6	64·0	5	28·6	30	47·1	1·5	·289	89
		Nov.	29·704	49·0	38·7	43·9	+2·6	59·5	23	28·5	21	42·7	1·8	·235	86
		Dec.	29·731	39·7	30·6	35·2	−3·0	56·0	2	10·0	31	34·8	1·3	·176	88
PETERHEAD, (Aberdeen.) Dr **W. H. M'Walter,** H.M. Prison.	100	Oct.	29·593	53·5	43·5	48·5	+0·5	61·0	5	32·0	29, 30	48·7	1·9	·298	87
		Nov.	29·630	49·2	40·0	44·6	+2·3	57·8	23	32·0	19	44·6	1·2	·267	91
		Dec.	29·658	42·9	32·6	37·8	−2·0	55·5	2	21·3	29	37·5	1·4	·197	88
CRATHES, (Kincardine.) **J. Smith,** Pinewood.	145	Oct.	29·543	53·9	39·4	46·7	+0·5	63·5	6	24·9	30	46·9	1·8	·278	88
		Nov.	29·603	48·9	36·9	42·9	+2·9	59·0	22, 23	26·0	21	43·0	1·8	·238	86
		Dec.	29·640	41·3	28·0	34·6	−2·3	58·0	2	4·0	30	34·2	1·8	·162	81
MONTROSE, (Forfar.) (Royal Asylum), Dr **John G. Havelock.**	200	Oct.	29·486	52·3	41·3	46·8	+0·0	60·0	7	30·0	30	46·6	1·8	·276	88
		Nov.	29·546	47·8	39·7	43·8	+5·8	57·0	22, 23	30·0	21	43·0	1·8	·238	86
		Dec.	29·594	39·4	31·4	35·4	−2·6	54·0	2	16·0	30	35·1	1·5	·175	85
ARBROATH, (Forfar.) **James Campbell,** "For the Natural History Assoc. of Arbroath."	68	Oct.	29·626	54·2	42·8	48·5	+1·6	61·0	5	30·0	14	48·7	1·9	·298	87
		Nov.	29·694	49·7	40·6	45·2	+3·9	58·0	22	34·0	11, 21	44·8	1·6	·260	88
		Dec.	29·741	41·9	31·9	36·9	−2·0	55·0	2	14·5	29	36·7	1·7	·185	85
DUNDEE, Eastern Necropolis, (Forfar.) **J. Carnochan,** Curator.	164	Oct.	29·525	53·2	42·3	47·8	+1·3	63·7	7	30·1	30	47·0	1·4	·289	90
		Nov	29·586	48·2	40·3	44·3	+3·6	57·2	22	32·3	10	43·7	1·3	·256	89
		Dec.	29·637	41·1	31·5	36·3	−1·1	53·8	2	15·8	31	36·2	1·2	·191	89
DUNDEE, Harbour, (Forfar.) **J. Thompson,** Jr., Harbour Trust.	20	Oct.	29·682	54·4	44·7	49·6	+1·2	63·0	7	34·5	14	...	...	...	...
		Nov.	29·750	49·2	42·6	45·9	+3·8	57·5	22	37·0	10	...	...	...	...
		Dec.	29·816	44·8	31·0	37·9	−1·1	55·2	4	23·2	31	...	...	...	...
LEDNATHIE, (Forfar.) **Wm. Morrison,** Gardener to Patrick Stormonth Darling.	720	Oct.	29·926	52·1	40·0	46·0	+1·6	66·0	2	28·0	14	46·0	1·6	·274	89
		Nov.	...	47·4	37·7	42·6	+3·7	56·0	22, 23	28·0	21	42·1	1·8	·230	86
		Dec.	...	40·1	27·6	33·8	−1·6	59·3	3	11·2	29	33·8	1·6	·162	83
BALRUDDERY, (Forfar.) **George Davie,** Gardener to J. Martin White.	280	Oct.	29·409	54·3	40·5	47·4	+1·0	64·0	1, 3, 7	27·0	30	47·1	1·7	·283	88
		Nov.	29·453	49·5	38·4	44·0	+3·3	57·0	22, 23	29·0	10	43·8	1·6	·250	88
		Dec.	29·514	41·7	30·8	36·2	−0·9	54·0	2	17·0	30	36·2	1·2	·191	89
PERTH, (Perth.) **John Leslie,** Gardener to Henry Coates.	105	Oct.	29·596	54·0	40·7	47·4	+1·0	64·5	7	28·0	30	47·0	1·2	·293	92
		Nov.	29·660	49·0	38·7	43·9	+3·0	59·0	22, 24	27·0	10	43·7	1·5	·251	88
		Dec.	29·727	41·5	29·9	35·7	−2·0	55·0	1	11·0	31	35·5	1·1	·187	90
STRONVAR, (Perth.) **D. L. Mackintosh,** Gardener to James Carnegie.	300	Oct.	29·250	54·1	40·6	47·4	+1·8	66·0	2	28·0	14	46·0	2·0	·265	86
		Nov.	29·320	48·5	38·5	43·5	+3·7	58·0	22, 23	27·0	10	43·0	1·9	·236	85
		Dec.	29·382	41·6	30·4	36·0	−0·9	55·0	2, 18	12·0	29	35·6	1·2	·187	89
CLATHICK, (Perth.) **Alex. Hendry.**	300	Oct.	29·371	54·8	41·2	48·0	+1·7	67·0	2	29·4	14	47·4	1·7	·286	88
		Nov.	29·443	49·9	39·2	44·6	+4·6	57·0	22, 28	29·0	10	44·0	2·0	·244	84
		Dec.	29·506	44·4	31·6	38·0	+1·1	58·0	19	17·0	29	6·8	1·7	·186	86
CUPAR, (Fife.) Dr **Turnbull,** Fife and Kinross District Asylum.	210	Oct.	29·470	54·4	41·8	48·1	+1·6	64·0	7	27·0	30	...	...	...	...
		Nov.	29·557	49·6	38·9	44·2	+3·4	57·0	23	32·0	4	...	...	...	...
		Dec.	29·596	43·3	31·1	37·2	−1·0	55·0	2	12·0	31	...	...	...	...

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
6·8	23	5·52	+ 2·33	2·49	19	2	0	0	3	13	0	0	0	2	2	12	1	12	3	9	21	1·1
7·5	22	6·50	+ 3·51	1·79	19	1	0	0	0	15	0	3	2	3	3	10	0	10	3	13	16	1·3
6·3	19	3·64	+ 0·73	1·12	27	13	0	0	1	9	0	5	0	4	0	3	0	3	7	20	25	1·4
6·7	27	4·46	+ 1·36	1·17	19	2	0	0	1	10	7	8	10	2	2	8	5	10	12	13	0	5·1
7·0	26	6·39	+ 3·58	1·06	19	4	0	0	0	13	0	4	11	5	1	7	3	5	11	17	0	5·0
6·1	23	4·44	+ 1·75	0·94	26	10	0	0	1	7	1	6	18	3	0	0	3	4	15	19	0	5·2
6·2	19	5·24	+ 2·24	0·92	11	1	0	0	2	10	4	2	1	8	0	11	10	22	2	8	0	2·6
6·5	16	2·92	− 0·31	0·45	5	0	0	0	0	7	0	1	4	6	4	6	4	24	9	3	0	3·0
5·3	17	3·91	+ 0·68	0·90	27	4	0	1	2	5	1	2	6	0	0	0	2	31	6	17	0	3·1
5·3	13	3·66	+ 0·28	0·80	11	0	0	0	2	12	4	3	4	2	1	7	32	1	1	7	7	2·5
6·1	14	3·08	− 0·15	0·63	20	0	0	0	3	7	1	2	4	3	0	10	24	2	1	7	9	2·7
7·0	13	? 2·05	− 0·87	0·60	12	7	0	0	4	13	2	4	2	0	0	1	24	5	3	18	9	2·7
4·3	18	5·82	...	1·94	19	2	1	0	6	0	4	0	1	3	3	13	8	20	6	4	4	2·3
7·0	17	5·12	...	1·30	1	0	0	0	5	12	2	2	3	3	10	1	3	17	10	11	2	2·6
6·1	18	3·66	...	1·30	27	10	1	1	5	9	1	1	3	2	2	1	3	11	17	18	5	2·4
...	15	4·03	+ 1·20	1·24	19	2	0	0	...	...	3	6	7	3	9	9	9	10	12	3	0	4·0
...	14	3·87	+ 1·10	0·90	5	0	0	0	...	...	1	3	6	5	6	1	5	16	14	7	0	4·0
...	17	2·04	− 0·77	0·68	15	10	0	0	...	...	2	9	4	0	0	0	11	13	16	18	0	4·0
6·6	23	4·00	+ 1·61	0·74	11	1	1	0	3	12	0	3	5	3	3	14	7	14	10	6	0	3·8
6·9	19	2·92	+ 0·60	0·38	1	1	1	0	0	13	1	1	4	11	3	3	2	17	17	3	0	3·8
5·4	16	? 2·06	− 0·38	0·40	15	8	1	0	3	8	2	8	6	1	0	2	3	17	17	15	1	3·4
8·8	23	3·83	+ 1·19	0·83	11	1	0	0	0	22	5	3	0	11	4	11	0	23	5	8	0	2·9
9·0	17	3·77	+ 1·20	0·85	1	0	0	0	0	21	1	4	0	10	6	4	0	14	17	9	0	3·6
8·7	16	1·74	− 0·96	0·48	12	5	0	0	0	19	7	4	2	7	0	2	0	11	15	25	0	3·2
6·6	25	3·27	...	0·86	11	0	0	0	2	15	...	1	2	5	15	6	1	9	19	5	0	2·5
6·8	16	3·49	...	0·75	1	0	0	0	2	10	...	0	6	3	9	3	2	5	28	4	0	2·5
6·3	10	1·43	...	0·46	12	3	0	0	1	10	...	2	6	6	2	0	0	4	36	8	0	2·2
7·3	28	6·12	+ 1·66	1·14	11	0	0	0	1	12	2	1	3	2	3	12	3	11	14	14	0	2·8
6·6	21	5·11	+ 0·30	1·05	1	5	0	0	0	9	0	6	4	9	1	0	3	10	20	10	3	3·2
5·9	17	2·39	− 1·98	0·37	12	14	0	0	1	3	0	2	8	0	3	2	1	3	18	25	2	3·2
6·2	24	3·53	...	1·00	11	1	0	0	4	11	0	1	4	6	1	2	3	11	12	3	20	1·3
6·3	19	4·17	...	0·77	4	0	0	1	5	12	0	2	3	7	2	5	0	7	10	9	17	1·7
5·2	14	1·96	...	0·63	12	4	0	0	3	5	0	3	8	0	0	0	0	2	14	11	27	1·7
6·4	17	3·39	+ 0·29	0·90	11	0	0	0	4	13	3	0	3	2	2	10	4	5	16	2	18	0·9
6·3	17	3·57	+ 0·67	0·74	1	0	0	1	2	10	0	0	2	5	3	7	0	11	20	4	8	1·4
5·5	11	1·47	− 1·69	0·71	12	6	0	0	6	8	0	0	10	0	0	0	0	2	19	6	25	1·1
7·2	28	10·82	+ 3·28	1·16	26	...	...	...	...	...	...	5	0	12	0	4	0	36	0	10	0	3·8
7·6	22	7·57	− 0·04	1·13	29	...	...	...	...	...	...	1	0	12	2	0	0	20	6	12	8	3·6
6·4	19	4·91	− 4·31	0·58	15	...	...	...	...	...	...	8	2	0	0	0	0	36	0	16	8	4·2
8·0	26	7·42	+ 3·39	1·30	26	1	0	0	0	15	2	1	0	6	19	5	3	12	8	9	0	3·0
7·5	24	4·84	+ 0·42	0·69	1	0	0	0	1	14	1	2	2	11	15	3	1	10	5	13	0	3·0
6·4	16	? 2·56	− 1·78	0·36	12	7	0	0	1	9	0	6	12	14	16	0	1	15	2	2	0	3·2
6·6	23	5·05	+ 2·43	0·84	26	...	...	...	0	10	...	0	12	0	20	2	4	1	18	5	0	1·6
6·1	16	3·28	+ 0·69	0·54	5	...	...	...	0	2	...	0	8	3	13	0	0	0	24	11	1	1·8
5·2	16	? 1·90	− 0·88	...	...	...	...	...	1	6	...	0	20	4	1	0	0	0	21	16	0	1·6

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
DUNFERMLINE, (Fife.) Dr J. MACDONALD, High School.	225	Oct.	...	...	..	...	...	...	...	...	...	...	...	...	...
		Nov.	29·516	47·3	...	...	...	58·0	23	...	...	44 5	1·8	·253	87
		Dec.	...	...	...	...	...	...	...	...	...	...	...	...	...
BUCHLYVIE, (Stirling.) Rev. JOHN A. MACDONALD.	125	Oct.	29·576	54·2	41·8	48·0	+1·7	64·0	2	29·0	14	48·1	1·5	·298	89
		Nov.	29·648	48·6	39·4	44·0	+4·4	58·5	22	26·0	10	44·4	1·7	·255	88
		Dec.	29·718	41·9	31·7	36·8	−0·4	53·0	2	15·5	26	37·1	1·8	·190	86
HELENSBURGH, (Dumbarton.) J. R. WILSON, Waterworks.	18	Oct.	...	54·6	42·4	48·5	+1·9	64·0	3	31·0	30	48·6	1·6	·302	89
		Nov.	...	49·2	40·2	44·7	+3·5	57·6	2	30·0	10	44·2	1·8	·250	86
		Dec.	...	42·9	33·3	38·1	−0·7	53·0	3, 19	13·4	26	37·4	1·3	·198	89
DUMBARTON, (Dumbarton.) WILLIAM DENNY AND BROTHERS.	27	Oct.	29·674	56·4	43·8	50·1	+2·6	64·0	1	30·4	30	50·1	2·3	·303	84
		Nov.	29·760	50·5	42·2	46·4	+4·7	58·0	23	30·0	10	46·1	2·0	·266	86
		Dec.	29·843	43·3	34·3	38·8	−0·5	53·5	2	17·0	26	39·3	1·8	·206	86
LOCHBUIE, (Argyll.) J. T. MANNARY, Gardener to The Maclaine of Lochbuie.	20	Oct.	29·667	55·0	43·8	49·4	+1·0	62·0	3	32·0	30	49·3	2·3	·294	84
		Nov.	29·750	51·4	40·6	46·0	+2·0	58·1	26	31·0	10	46·0	1·9	·267	87
		Dec.	29·856	45·1	34·7	39·9	−1·4	52·8	3	20·5	26	41·1	1·5	·226	88
AIRDS, (Argyll.) Colonel MACFIE, C.B., and ALEXANDER M'LACHLAN.	15	Oct.	29·678	55·4	43·2	49·3	+0·9	63·0	7	34·0	29, 30	...	...	...	87
		Nov.	29·766	50·8	41·3	46·0	+2·0	60·0	23, 25	33·0	10	...	...	...	...
		Dec.	29·861	45·7	34·1	39·9	−1·7	57·0	2	24·0	9	...	...	...	91
POLTALLOCH, Lochgilphead (Argyll.) D. S. MELVILLE, Gardener.	135	Oct.	29·549	55·3	43·2	49·3	+2·0	65·0	1	30·0	30	48·4	2·4	·281	83
		Nov.	29·646	...	40·7	...	...	...	...	27·0	11	44·6	2·1	·248	84
		Dec.	29·734	43·7	34·9	39·3	−0·5	52·0	3, 5	19·0	29	39·9	1·9	·208	85
ROTHESAY, (Isle of Bute.) R. HENDERSON and D. PENNEY, Glenburn Hydropathic.	76	Oct.	29·627	55·2	43·7	49·4	+1·9	62·0	2	32·0	14, 30	49·1	1·7	·307	88
		Nov.	29·710	50·4	40·1	45·2	+2·6	58·0	22, 23	30·0	10	45·9	2·1	·263	86
		Dec.	29·806	44·2	35·0	39·6	−0·4	54·0	2, 17	24·0	26	39·5	1·8	·207	81
GREENOCK, (Renfrew.) DANIEL MACALISTER, C.E., Waterworks.	238	Oct.	29·457	55·4	42·6	49·0	+2·1	64·2	8	31·5	14	49·8	1·9	·310	87
		Nov.	29·536	50·0	39·9	44·9	+3·1	57·5	23	31·5	10	45·1	2·0	·254	85
		Dec.	29·613	43·2	33·3	38·2	−1·2	53·2	2, 18	20·2	31	39·8	1·7	·211	87
PAISLEY, (Renfrew.) DONALD MACLEAN, The Coats Observatory.	107	Oct.	29·581	55·4	44·6	50·0	+2·3	63·7	2	32·1	14	49·5	2·0	·304	87
		Nov.	29·664	49·8	41·6	45·7	+3·4	58·5	22	32 1	7	45·6	2·0	·261	85
		Dec.	29·749	42·5	34·7	38·6	−0·9	52·7	2	20·1	26	38·5	1·7	·199	86
BOWHILL, (Ayr.) ALEXANDER GILLESPIE, C.E.	978	Oct.	28·664	52·4	40·4	46·4	+3·2	61·5	1	29·0	30	46·4	1·3	·284	91
		Nov.	28·744	47·2	36·4	41·8	+2·8	58·0	23	29·0	10	40·2	1·5	·237	89
		Dec.	28·816	40·4	30·2	35·3	−0·8	50·5	4	15·0	26	35·2	0·9	·188	81
KILMARNOCK, (Ayr.) GLENFIELD & KENNEDY, Ltd.	74	Oct.	29·639	55·2	43·0	49·1	...	63·0	7	26·0	14	49·6	2·3	·298	84
		Nov.	29·730	49·2	40·2	44·7	...	59·0	24, 25	27·0	10	45·4	2·0	·258	86
		Dec.	29·806	42·9	33·7	38·3	...	54·0	4	11·5	26	39·2	1·7	·207	86
GLASGOW, Belvidere Hosp., (Lanark.) Dr JOHN BROWNLEE.	54	Oct.	29·652	55·8	44·4	50·1	+2·9	65·8	7	28·8	30	50·3	2·5	·301	83
		Nov.	29·725	49·8	41·4	45·6	+3·3	58·8	24	31·9	7	46·5	2·5	·259	82
		Dec.	29·805	43·1	34·1	38·6	−0·7	53·2	2	19·6	26	39·1	1·7	·206	86
GLASGOW, Observatory, (Lanark.) Prof. BECKER, F.R.S.E.	184	Oct.	29·498	54·0	44·2	49·1	+1·7	63·1	7	32·6	14	49·0	2·2	·294	85
		Nov.	29·583	49·0	41·9	45·5	+3·7	57·3	22	33·2	18	45·3	2·0	·257	85
		Dec.	29·662	42·4	34·7	38·6	−0·5	52·4	2, 4	21·8	26	38·3	1·7	·198	86
BOTHWELL, (Lanark.) Dr JOHN T. WILSON.	150	Oct.	...	54·9	42·6	48·8	+1·3	65·0	7	26·0	14	47·9	1·7	·291	88
		Nov.	...	49·6	41·2	45·4	+4·4	59·0	22	30·0	19	45·0	1·6	·262	88
		Dec.	...	42·2	33·0	37·6	−1·0	53·4	2	15·0	26	37·2	1·4	·194	87

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
		inch.	inch.	inch.																		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8·8	19	3·67	...	0·59	5	0	0	0	0	19	2	0	3	20	0	0	0	15	18	4	0	1·5
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6·3	28	7·47	+2·83	1·33	11	2	1	0	0	10	1	2	0	0	13	5	0	15	16	9	4	3·0
6·2	21	5·82	+0·81	1·11	29	2	0	0	2	10	2	1	0	2	9	4	1	16	19	4	5	3·2
6·0	24	4·10	−1·85	0·72	31	7	0	0	2	7	8	3	4	4	2	2	1	11	28	6	4	2·8
...	25	6·61	+1·93	1·11	26	...	...	...	...	...	...	...	12	0	28	0	16	0	6	0	0	...
...	21	4·54	−0·21	0·68	29	...	...	...	...	...	...	...	26	0	16	0	16	0	2	0	0	...
...	17	4·25	−1·35	1·06	16	...	...	...	...	...	...	...	17	0	6	0	16	0	6	17	0	...
...	27	6·74	+2·05	1·46	26	...	...	...	...	...	...	0	8	2	4	20	0	8	6	6	8	1·4
...	21	4·23	−0·72	0·57	26	...	...	...	...	...	...	0	10	4	4	6	4	4	8	4	16	1·2
...	22	4·50	−0·68	0·92	15	...	...	...	...	...	...	0	6	0	0	6	4	2	14	12	18	1·0
7·7	28	9·03	...	0·92	29	0	0	0	0	15	0	5	8	6	10	4	6	14	10	0	4	3·9
7·1	20	10·58	...	1·32	30	0	1	0	2	15	0	2	10	6	6	4	4	16	6	6	2	3·3
8·2	22	11·36	...	2·06	13	8	0	0	1	17	0	4	20	0	4	8	2	18	4	2	4	3·6
8·5	19	5·70	+0·15	...	...	...	...	...	0	18	...	0	9	0	11	12	18	2	9	1	0	2·8
8·6	14	3·80	−1·69	...	...	...	...	...	0	20	...	0	3	0	17	8	7	7	17	1	0	3·0
8·5	15	4·65	−1·55	...	...	...	...	...	2	19	...	2	12	1	8	7	9	8	14	3	0	2·8
8·5	27	9·23	+3·64	1·19	28	0	2	0	1	20	2	2	1	4	1	2	13	7	14	1	19	2·8
7·7	21	4·59	−0·77	0·60	28	0	0	0	2	16	0	3	3	8	0	4	10	8	2	6	19	2·3
8·5	24	7·64	+1·94	1·63	15	6	2	1	0	23	0	5	7	5	0	1	5	1	8	8	27	2·4
6·7	23	7·78	+3·01	0·96	23	1	3	0	2	13	2	1	1	2	12	4	4	11	15	6	7	1·6
6·6	21	5·68	+0·83	0·74	14	1	1	1	2	12	1	1	2	5	10	2	7	10	11	5	8	1·6
6·8	23	5 24	+0·40	1·14	15	6	0	0	3	12	3	2	5	0	8	0	4	10	21	9	5	1·7
8·6	27	8·63	+2·47	1·33	26	2	2	0	0	19	0	0	0	1	3	20	0	12	15	10	1	3·0
7·7	21	5·95	−0·35	1·09	29	0	0	0	0	12	1	2	0	5	8	5	0	12	19	11	0	3·7
7·7	24	6·04	−1·44	0·82	2	9	2	0	0	14	2	1	0	3	0	6	0	10	23	20	0	3·3
7·6	26	7·07	+2·95	1·10	26	0	3	0	1	17	15	0	4	1	9	5	7	9	9	6	12	2·0
7·6	21	4·83	+0·84	0·70	29	0	1	0	2	13	12	0	7	4	9	0	8	1	19	2	10	2·2
7·4	20	4·34	−0·42	0·78	2	6	2	0	2	18	11	0	12	0	2	1	6	3	16	6	16	1·7
8·0	26	7·65	...	1·20	26	...	...	...	0	20	...	0	5	3	2	11	17	16	1	6	1	2·1
8·2	21	5·49	...	1·12	2	...	...	...	0	19	...	0	3	10	0	9	12	12	9	5	0	2·4
8·4	22	6·90	...	1·65	15	...	...	...	0	21	...	0	7	5	1	2	14	18	5	10	0	2·1
...	24	5·98	...	0·79	11	1	1	0	...	...	0	0	0	0	18	6	7	9	13	8	1	1·8
...	18	4·15	...	0·74	26	0	3	0	...	...	0	0	0	2	17	5	2	10	14	8	2	2·3
...	19	5·26	...	0·94	1	5	1	0	...	...	1	0	4	2	10	7	3	8	12	15	1	1·9
8·4	26	5·60	+2·07	0·79	11, 26	1	0	0	0	22	0	0	2	1	11	6	0	4	11	9	18	1·1
8·5	20	4·50	+0·93	0·58	16	0	1	0	0	16	1	2	8	1	8	2	0	1	11	18	11	1·6
7·3	22	4·00	+0·13	0·62	2, 15	5	0	0	1	11	0	1	3	3	6	1	2	0	13	19	15	1·3
8·2	26	5·16	+1·42	0·90	11	1	0	0	0	19	0	0	4	7	8	6	7	17	6	2	5	2·8
8·5	18	4·44	+0·79	0·71	26	1	1	0	0	21	1	1	0	14	3	1	5	18	11	1	7	3·2
8·4	19	3·99	−0·14	0·80	15	7	0	0	0	21	1	1	2	2	3	0	0	21	17	9	8	2·6
...	26	5·08	+2·60	0·78	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	20	3·43	+0·82	0·45	26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	19	2·64	−0·24	0·48	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1906.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A.	B.										
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Maximum.	Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°	°	°	°	inch.	%
LEADHILLS, (Lanark.) James M'Farlane.	1300	Oct.	...	51·7	39·6	45·6	+2·9	61·0	1	24·0	14	43·8	1·6	·250	87
		Nov.	...	44·5	35·4	39·9	+3·0	53·5	24	28·0	18	37·7	1·2	·203	90
		Dec.	...	38·7	27·3	33·0	−0·9	49·9	5	9·0	27	32·1	1·0	·159	87
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. Dyson, F.R.S.	441	Oct.	29·232	54·1	43·4	48·8	+2·8	64·1	5	31·5	30	48·5	2·2	·287	84
		Nov.	29·300	48·6	41·4	45·0	+4·0	60·3	4	33·4	18	44·4	1·9	·251	86
		Dec.	29·364	42·1	33·7	37·9	−0·2	55·3	2	22·7	26	37·5	1·6	·193	86
CORSTORPHINE, (Edinburgh.) Dr T. N. Johnston, F.R.S.E.	165	Oct.	29·525	55·7	42·9	49·3	+3·3	66·8	10	28·5	30	48·1	1·6	·296	89
		Nov.	29·593	49·9	41·6	45·7	+4·2	61·0	22	33·7	6	44·9	2·0	·253	86
		Dec.	29·665	42·6	33·5	38·1	−0·3	53·8	17	21·6	26	37·0	1·6	·289	86
LEITH, (Edinburgh.) James Bolam, Nautical College.	76	Oct.	29·622	55·7	44·8	50·3	+2·9	64·0	7	33·8	14, 30	49·2	2·1	·298	86
		Nov.	29·690	50·1	43·2	46·7	+4·3	61·8	22	35·7	18	45·9	2·0	·265	86
		Dec.	29·764	42·8	35·5	39·1	−0·5	53·9	2	23·9	30	38·4	2·2	·190	83
DALKEITH, (Edinburgh.) J. Whytock, Gardener to the Duke of Buccleuch.	190	Oct.	29·510	55·4	42·4	48·9	+2·8	65·5	5	28·0	30	48·8	1·8	·300	87
		Nov.	29·572	49·2	41·0	45·1	+3·6	59·5	22	33·0	6, 18	45·2	1·6	·264	88
		Dec.	...	42·1	32·0	37·1	−1·3	54·0	2	19·5	29	37·2	1·7	·188	85
SMEATON, (Haddington.) John Black, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Oct.	29·603	55·2	42·4	48·8	+2·0	66·0	5	30·0	14, 30	48·0	1·7	·292	88
		Nov.	29·655	49·6	40·3	44·9	+4·0	60·0	22, 23	33·0	18, 21	44·9	1·3	·268	91
		Dec.	29·727	42·6	31·5	37·0	−1·2	56·0	2	14·0	31	36·9	1·4	·189	87
HADDINGTON, (Haddington.) D. Macrae, Superintendent, District Asylum.	...	Oct.	29·460	55·9	42·7	49·3	+2·3	68·0	5	30·0	14, 15	49·1	2·0	·299	86
		Nov.	29·520	49·4	41·7	45·6	+4·5	61·0	22, 23	32·0	18	45·6	2·0	·261	85
		Dec.	29·583	42·8	32·8	37·8	−0·6	55·0	17	16·0	31	37·6	1·3	·200	89
MARCHMONT, (Berwick.) John A. Wood, Gardener.	500	Oct.	...	54·3	40·7	47·5	+1·8	64·0	5	28·0	14, 30	48·0	1·8	·290	87
		Nov.	...	47·6	37·7	42·7	+2·8	55·0	23	27·0	19	43·0	1·5	·245	88
		Dec.	...	40·7	29·3	35·0	−1·6	52·0	2, 5	16·0	29, 31	35·4	1·5	·179	87
DUNS CASTLE, (Berwick.) James Redpath, Gardener to F. S. Hay.	500	Oct.	29·179	55·4	40·3	47·8	+2·1	67·0	1, 5	27·0	30	47·2	1·5	·289	90
		Nov.	29·234	48·9	38·2	43·6	+3·7	56·0	22, 30	27·0	19	43·1	1·5	·246	88
		Dec.	29·291	40·8	29·6	35·2	−1·5	55·0	2	16·0	31	34·9	1·2	·179	89
BROOMLANDS, (Roxburgh.) James Brunton.	205	Oct.	29·507	56·5	41·0	48·8	+2·3	66·0	5, 22	27·0	14, 30	48·2	1·3	·305	91
		Nov.	29·563	49·6	39·6	44·6	+3·9	58·0	23	28·0	18, 19	44·3	1·6	·256	88
		Dec.	29·626	41·8	30·2	36·0	−1·7	56·0	2	12·0	31	35·6	0·9	·193	92
WOLFELEE, (Roxburgh.) Arthur Hume, Gardener to J. T. S. Elliot.	537	Oct.	29·137	55·1	41·3	48·2	+2·9	65·0	1, 10	26·0	14	47·2	1·4	·291	91
		Nov.	29·198	47·5	38·9	43·2	+3·2	55·0	22, 29	29·0	18, 19	42·9	1·4	·246	89
		Dec.	29·266	40·3	29·9	35·1	−1·8	53·0	2, 4	15·0	26, 29	34·2	0·9	·180	90
DRUMLANRIG, (Dumfries.) David Inglis, Gardener to the Duke of Buccleuch.	191	Oct.	29·506	55·7	42·1	48·9	+2·1	68·0	6	24·4	30	47·4	1·4	·293	90
		Nov.	29·590	49·3	39·2	44·2	+3·2	56·0	22	27·0	19	43·8	1·5	·253	88
		Dec.	29·670	41·2	30·1	35·6	−2·4	54·0	2, 4	15·0	26	35·3	1·0	·186	91
DUMFRIES, (Dumfries.) Rev. William Andson.	60	Oct.	29·654	57·2	43·3	50·3	+2·8	64·0	11, 12	29·0	14	49·5	2·0	·304	87
		Nov.	29·741	48·7	40·9	44·8	+2·9	56·0	22	30·0	18	45·1	2·0	·254	85
		Dec.	29·830	40·1	32·1	36·1	−2·7	53·0	2	17·0	26	37·1	1·5	·192	87
CARGEN, (Kirkcudbright.) Alex. Peacock, Gardener to Colonel Dudgeon.	85	Oct.	29·659	55·9	43·3	49·6	+2·3	63·0	10	28·0	14	50·0	1·5	·322	90
		Nov.	29·728	49·8	39·0	44·4	+2·6	56·0	22, 23	29·0	19	44·4	1·3	·262	90
		Dec.	29·810	42·2	32·1	37·2	−1·6	54·0	2, 17	15·0	26	37·0	0·9	·202	92
CALLY, (Kirkcudbright.) Wm. Thomson.	120	Oct.	29·594	55·1	42·3	48·7	+1·3	57·2	3	28·3	14	49·8	1·6	·317	88
		Nov.	29·694	48·5	38·8	43·7	+1·6	56·4	22	28·5	12	44·2	1·6	·255	88
		Dec.	29·774	42·9	32·9	37·9	−1·4	50·0	19	16·1	26	38·0	1·3	·203	89

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0-10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day. Amount.	Most in a day. Day of Month.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0-12.
		inch.	inch.	inch.																		
...	25	11·09	...	2·11	28	4	0	0	...	...	0	0	...	...	...	...	...	...	...	...	...	...
...	22	5·41	...	1·09	2	4	1	0	...	...	7	5	...	...	...	...	...	...	...	...	...	...
...	25	5·39	...	0·91	2	17	2	0	...	...	5	10	...	...	...	...	...	...	...	...	...	...
7·0	23	6·11	+3·64	1·44	19	2	0	0	0	8	2	4	2	1	7	8	11	18	10	1	4	3·1
7·1	19	3·61	+1·31	0·61	7	0	0	0	1	14	2	3	5	3	6	2	8	15	16	4	1	3·7
6·0	16	1·17	−1·07	0·53	12	4	0	0	2	7	2	5	9	0	0	2	6	14	17	9	5	3·0
6·4	27	6·12	...	1·12	11	2	0	0	2	12	1	0	2	2	13	0	5	10	25	2	3	2·2
6·9	22	3·74	...	0·51	8	0	0	0	0	12	0	1	10	2	13	0	2	1	28	1	3	2·2
5·8	17	1·50	...	0·54	12	4	0	0	0	5	1	0	10	1	4	0	1	1	35	8	2	1·8
7·2	23	6·06	+3·47	1·20	11	1	1	0	2	12	1	0	6	2	8	6	14	8	18	0	0	3·5
7·0	20	3·58	+1·27	0·54	7	0	0	0	1	13	3	3	6	4	6	2	8	16	16	2	0	4·2
7·5	17	1·37	−0·92	0·41	12	4	2	0	3	14	5	1	6	0	0	6	0	10	34	4	2	3·2
6·5	17	6·34	...	1·37	19	0	0	0	1	12	1	0	2	5	2	8	8	13	20	2	2	1·4
7·1	16	3·96	...	0·77	7	0	0	0	1	15	1	0	0	8	6	1	3	14	23	5	0	1·6
5·5	11	1·98	...	0·58	12	4	1	0	4	6	4	1	4	2	1	1	3	5	32	14	0	1·5
5·9	17	6·14	+3·66	3·28	19	1	0	0	0	8	6	1	2	5	5	13	10	12	15	0	0	1·2
5·1	16	3·94	+1·56	0·61	4	0	0	0	0	5	0	2	7	10	1	3	8	15	14	2	0	1·4
4·6	14	2·86	+0·84	0·62	27	6	0	0	1	6	3	4	3	2	0	5	15	11	17	9	0	1·1
6·1	19	7·77	...	2·13	19	1	0	0	5	14	0	0	1	3	5	13	0	5	20	15	0	1·2
6·0	18	3·95	...	0·91	7	1	0	0	5	14	0	1	0	4	3	16	0	8	11	18	0	1·8
6·4	16	! 2·36	...	0·72	12	4	0	0	3	10	0	3	3	2	1	1	0	3	20	32	0	1·4
7·0	20	8·28	+4·74	1·85	18	1	0	0	2	16	6	6	7	3	19	0	15	12	4	2	0	3·5
7·5	13	3·93	+0·68	0·61	7	3	0	0	2	18	0	5	6	7	9	2	7	5	20	4	0	4·2
6·8	15	! 2·94	−0·06	0·67	12	7	0	0	3	16	0	7	15	0	0	1	5	9	23	9	0	4·0
6·7	24	7·13	+3·76	1·64	18	1	0	0	5	13	3	1	1	1	9	7	7	23	3	11	0	1·0
7·4	15	3·50	+0·51	0·57	7	0	0	0	3	18	1	2	3	10	6	4	2	19	7	9	0	1·2
5·7	16	2·55	−0·51	0·73	12	5	0	0	3	8	3	2	5	4	0	0	5	12	8	28	0	1·1
6·7	23	6·66	+3·90	1·30	18	1	0	1	1	7	2	0	2	7	2	5	0	41	2	1	2	2·8
7·2	17	2·68	+0·14	0·30	4, 16	0	0	0	0	12	1	2	0	3	22	0	1	33	0	1	0	4·6
6·8	20	! 3·02	+0·70	...	...	5	0	0	0	8	1	2	3	5	2	0	0	28	2	17	5	3·4
7·2	23	5·91	+1·94	1·01	18	2	0	0	1	12	2	0	4	4	0	3	8	21	14	8	0	1·8
7·8	19	3·21	−0·83	0·50	7	1	0	0	0	11	0	0	3	12	0	2	2	15	21	5	0	1·7
6·8	20	2·20	−2·07	0·32	27	7	1	0	1	9	0	3	1	4	0	0	5	36	5	11	0	1·6
...	27	9·62	+5·06	2·35	26	0	1	1	...	...	0	...	2	4	0	3	1	40	5	7	0	...
...	23	3·81	−0·74	0·67	2	0	1	0	...	...	0	...	4	14	1	2	1	24	2	12	0	...
...	18	3·39	−1·34	0·76	16	7	0	0	...	...	1	...	6	1	0	0	0	20	4	31	0	...
...	26	4·10	+0·44	0·78	26	0	0	0	...	...	1	0	2	8	6	10	1	17	10	7	1	2·6
...	17	2·76	−1·03	0·47	2	0	0	0	...	...	1	1	8	10	5	2	3	13	10	9	0	2·8
...	21	3·17	−1·02	0·61	4	5	0	0	...	...	2	1	3	4	3	3	2	13	10	23	1	2·6
7·0	20	5·54	+1·10	1·34	26	0	0	0	0	8	0	0	0	1	3	7	17	14	10	10	0	1·6
6·7	16	3·46	−0·89	0·54	2	0	0	0	0	8	0	0	1	3	7	12	8	17	4	8	0	1·7
6·5	15	4·17	−0·75	0·85	5	3	0	0	0	6	0	0	16	3	6	3	3	3	16	12	0	1·4
5·4	25	5·34	+0·54	1·02	26	1	2	0	2	8	0	1	0	10	1	11	2	19	5	14	0	2·0
5·6	17	3·58	−1·68	0·78	16	2	2	0	5	8	2	0	4	15	0	8	2	13	8	15	0	1·8
...	21	3·91	−1·45	0·64	5	7	3	0	...	...	3	0	0	20	2	11	2	12	2	13	0	1·7

BRIGHT SUNSHINE.

STATIONS.		1906.	SUNSHINE.		
		Months.	Total Observed.	Difference from Average.	Percentage of Possible.
			hours.	hours.	%
BALTASOUND,	(Shetland.)	Oct. Nov. Dec.	65·2 23·4 15·4	... ...	21 11 9
DEERNESS,	(Orkney.)	Oct. Nov. Dec.	78·5 27·6 15·5	− 2·8 −10·3 − 9·1	25 12 8
INVERNESS,	(Inverness.)	Oct. Nov. Dec.	85·0 51·3 33·3	+14·7 + 7·7 + 8·1	27 22 17
FORT AUGUSTUS,	(Inverness.)	Oct. Nov. Dec.	64·1 19·1 3·9	+ 2·5 − 1·9 − 4·1	20 8 2
CRATHES,	(Kincardine.)	Oct. Nov. Dec.	84·7 47·9 40·1	... ...	27 20 20
BALRUDDERY,	(Forfar.)	Oct. Nov. Dec.	70·4 44·5 42·9	... ...	22 19 22
OBAN,	(Argyll.)	Oct. Nov. Dec.	65·2 46·8 17·8	... ...	21 20 9
PAISLEY,	(Renfrew.)	Oct. Nov. Dec.	70·8 36·2 23·5	−13·2 + 0·2 + 1·5	22 15 11
GLASGOW,	(Lanark.)	Oct. Nov. Dec.	57·0 26·3 20·2	−12·7 0·0 + 4·8	18 11 10
EDINBURGH,	(Edinburgh.)	Oct. Nov. Dec.	100·2 50·6 44·0	+ 3·1 −13·7 + 7·1	31 21 20
DUNS CASTLE,	(Berwick.)	Oct. Nov. Dec.	76·3 36·0 39·0	... ...	24 15 19
MARCHMONT,	(Berwick.)	Oct. Nov. Dec.	65·9 33·7 41·2	−19·8 −17·0 + 9·5	21 14 20

UNDERGROUND TEMPERATURE.

STATIONS.		1906.	UNDERGROUND TEMPERATURE.				
			Depth in Inches.				
		Months.	3	12	22	36	48
			°	°	°	°	°
DUNROBIN,	**(Sutherland.)**	Oct.	47·4	50·2	50·7	...	...
		Nov.	43·3	44·9	45·9	...	...
		Dec.	37·4	40·2	41·2	...	...
INVERNESS,	**(Inverness.)**	Oct.	...	49·2	...	...	52·0
		Nov.	...	44·9	...	...	47·2
		Dec.	...	40·1	...	...	43·8
ARBROATH,	**(Forfar.)**	Oct.	48·2	49·0	49·3	...	...
		Nov.	42·8	43·8	44·5	...	...
		Dec.	36·0	37·8	39·9	...	...
POLTALLOCH,	**(Argyll.)**	Oct.	50·3	51·9	52·9	...	...
		Nov.	45·7	47·5	47·3	...	...
		Dec.	41·2	43·5	44·1	...	...
ROTHESAY,	**(Bute.)**	Oct.	...	...	...	...	51·3
		Nov.	...	...	...	...	47·5
		Dec.	...	...	...	...	...
PAISLEY,	**(Renfrew.)**	Oct.	48·9	49·6	52·1	...	...
		Nov.	44·9	45·2	47·2	...	...
		Dec.	39·0	40·1	43·7	...	...
CORSTORPHINE,	**(Edinburgh.)**	Oct.	47·3	50·1	50·7	51·5	52·6
		Nov.	44·1	44·7	45·7	46·5	48·2
		Dec.	37·4	40·3	41·4	42·9	45·1
SMEATON,	**(Haddington.)**	Oct.	46·8	48·2	48·3	...	...
		Nov.	43·5	43·8	44·3	...	...
		Dec.	36·7	38·6	...	...	...
MARCHMONT,	**(Berwick.)**	Oct.	46·0	48·0	50·1	...	...
		Nov.	41·7	42·9	44·6	...	...
		Dec.	35·2	37·3	39·9	...	...

Continuation of page 205.]

the actual highest being 68°·0 at Lairg on 23rd. The highest temperature occurred in the Lothians and the North of Scotland, Leith and Gordon Castle both having maxima above 60°·0 on three consecutive days.

The mean rainfall was 4·74 inches, or 25 per cent. above the normal. The distribution was very irregular. Thus in the extreme South and West there was a deficiency, whilst in Sutherlandshire and from Dunrobin round the fringe of the Moray Firth and in the hilly parts of Aberdeenshire the amounts were at places unprecedentedly heavy. The Dunrobin total of 8·66 inches was about 3 inches above any November rainfall recorded in the last 40 years. In Northern districts the first 5 days and the last half of the month were almost continuously wet, with heaviest falls from 17th to 19th. We may note:—on 17th, 1·67 inch at Dunrobin and 1·47 inch at Lairg; and on 19th, 2·50 inches at Balmoral, 1·77 inch at Dunrobin and 1·36 inch at Gordon Castle.

Snow or sleet in various districts between 18th and 20th. Hail rather frequent.

Thunder at Perth on 4th; near Dundee on 5th; and at Glencarron and Rothesay on 30th.

Sunshine rather deficient on the whole, and fog of extremely rare occurrence.

The weather was rather stormy between 17th and 23rd and at the close of the month, but very severe gales did not occur.

An aurora was observed in Shetland (Baltasound) on 11th.

DECEMBER 1906—

Hence the month of DECEMBER 1906 was characterised by a slightly high mean pressure; a rather low mean temperature, with a slightly high mean daily range; a mean humidity close to the normal; a slightly low mean rainfall, with a slightly high number of rain days; a large excess of winds from a N.W. quarter.

The mean barometric pressure was 29·830 inches, or 0·050 inch above the normal. There was a period of high pressure from 16th to 23rd and the mercury was high also on 1st and 6th, lowest readings occurring on 5th and 26th. On the night of the 5th a deep depression moved southwards over the North Sea with a rapid recovery of pressure amounting to about 1 inch in 24 hours. Stormy weather of a North-Westerly type at the end of the month was associated with a depression that arrived over the South of Norway on 25th and travelled southwards, a small secondary depression that crossed England rapidly from N.W. to S.E. also being an important factor.

The mean temperature was 37°·0, or 1°·1 below the normal, days being 0°·7 and nights 1°·5 below their respective averages. The mild weather of November was prolonged throughout the first week, the second week being decidedly cold. Mild conditions again prevailed, but from 24th to 31st the weather was extremely wintry under the influence of winds from N. and N.W. Highest readings occurred on 2nd as a rule, and at some stations between 17th and 19th, Lednathie having 59°·3 on 3rd and Crathes 58°·0 on 2nd. Lowest readings were noted on night of 30th, but towards S.W. and S. on 26th. Crathes reported 4°·0 in shade, Balmoral 7°·0, and Leadhills 9°·0, whilst Crathes had exposed readings below zero on 30th and 31st. At Aberdeen during the two days, 29th and 30th, the thermometer did not rise above 21°·0.

The mean rainfall was 3·92 inches, or 5 per cent. below the normal. In Orkney, towards the North-West and South-West, in East Lothian and in parts of Aberdeenshire there was an excess. In some districts the agreement with the normal was close, whilst over above half the country there was a decided shortage. Thus the distribution was rather irregular. In the North-West rain fell on every day from 1st to 20th, Glencarron registering 3·65 inches on 3rd, and about 7½ inches during the first five days. The heaviest general falls occurred early in the month, on 12th and on 15th, whilst in many districts but little rain fell from 17th to 24th. Heavy snow after that date made accurate registration difficult; and where drifting made it impossible to obtain by melting the rainfall equivalent of the actual snowfall, (?) is prefixed to the estimated total amount for the month given in the accompanying tables.

Along our Northern and Western Coasts the weather was stormy from 5th to 7th, and from 12th to 14th a snowstorm occurred in districts.

The last six days of the month were marked by the severest snowstorm experienced for many years. With a gale from the North-West the storm was of the nature of a blizzard, and parts of the North-East of Scotland and the Border counties were isolated for some days. In many places the drifts were of great depth. On the afternoon of 28th, when the storm was at its height, a disastrous railway accident attended with great loss of life occurred near Arbroath.

Thunder at some Western places on 5th; and in Shetland, Aberdeen and Crathes on 27th.

Bright sunshine slightly in excess, but deficient in Orkney.

An aurora observed at Crathes on 8th, and at Baltasound on 15th.

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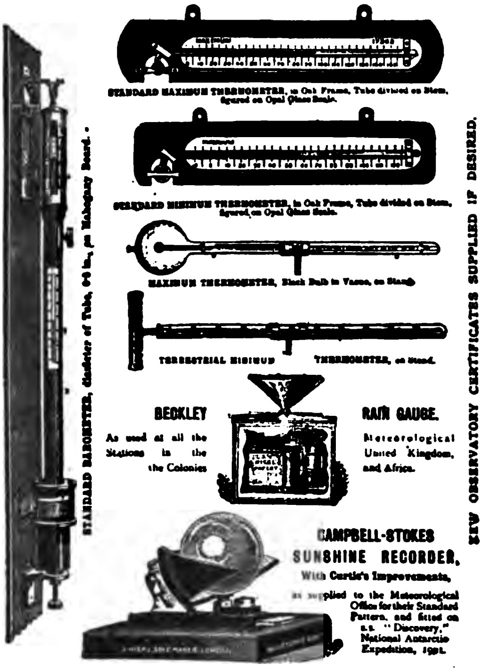
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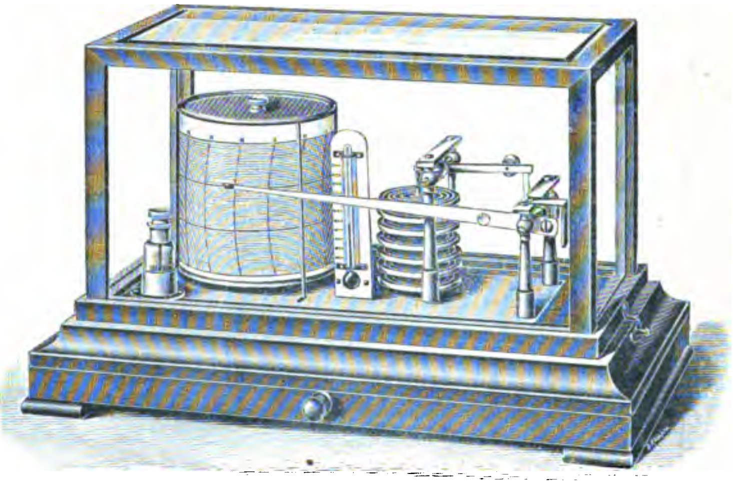

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The Council desire to call the attention of Members to the revised Constitution and Laws of the Society, approved at a General Meeting, held on 9th July 1908, and printed on pp. 270, 271, and also to the Statement by the Council on pp. 268, 269. The prosperity and efficiency of the Society depend on the subscriptions of its Members, and the Council earnestly hope that present supporters will exercise their right of recommending friends for admission to membership.

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20th October 1908.

1.

THE FREEZING OF FRESH-WATER LAKES.

By E. M. Wedderburn, W.S., F.R.S.E.

In Scotland opportunities for investigating the freezing of lakes are not very abundant, and the discomfort of watching a lake while it freezes is manifest; in consequence, our knowledge of the freezing of lakes is not very extensive.

Before a lake can freeze over it is necessary that the whole of its waters should have fallen to the temperature of the maximum density-point, viz. 39°·2 F. Until that point is reached, the surface water which is cooled by contact with the atmosphere becomes heavier than the lower and warmer layers, and consequently sinks. So active are convection currents in bringing up warm water to the surface, and in carrying away cold water, that it is, in my experience, a rare thing to observe water at the surface, which is above the maximum density-point, to be more than one- or two-tenths of a degree lower in temperature than the water immediately below it. For this reason we find that a lake never freezes until its waters have been cooled below the maximum density-point. When this point is reached convection almost ceases to play any part in the cooling of the water of the lake, and the loss of heat takes place by means of conduction, and by the much greater influence of wind-produced currents. Convection still plays a small part in the cooling of the lake, for the water round the shores and in shallow bays cools more rapidly than the water in the deeper parts of the lake, and convection currents tend to make the isotherms, or lines of equal temperature, horizontal throughout the whole lake. The influence of winds is, however, much greater than the influence of conduction and convection, for a wind blowing along the surface of the lake carries with it the surface water which is being cooled, with the result that, in a lake which is much exposed to winds, after the maximum density-point is reached, the whole body of water in the lake is kept at a practically uniform temperature throughout.

It does not, of course, follow that whenever a lake reaches the maximum density-point it will freeze, but it can be asserted that if a severe frost were to set in, the lake is in a condition that makes freezing possible. Richter,* the Austrian limnologist, and other continental writers have been at a loss to explain the fact that it is only after the temperature of the waters has fallen considerably below the maximum density-point that freezing occurs, and they have entered into elaborate explanations why this should be so. It apparently occurred to Richter that the mixing action of winds might afford an explanation, but he set this aside, for he was of opinion that the effect of winds was not felt to any great depth from the surface, and so could not produce a general mixing of the water. But if the observations* made in Loch Ness, by Sir John Murray and by members of the Scottish Lake Survey, show anything, they show that when the temperature of the water is nearly uniform, the currents produced by wind are felt throughout the whole depth of a lake and thoroughly mix its waters.

---

* *Seestudien Geogr. Abh. h. v.*, Dr. Penck in Wien, Bd. vi. Heft 2 p. 50.

In the generality of cases the water has been cooled down to the maximum density-point long before the atmosphere is sufficiently cold to freeze it over, and, in consequence, the whole water continues to fall in temperature until the air temperature falls sufficiently to produce freezing. The water is frequently cooled far below the maximum density-point before freezing sets in. This is, I think, the obvious reason why the surface does not freeze whenever the maximum density-point is reached, and why water of 39°·2 F. is seldom, if ever, observed under the ice. Mr. J. Y. Buchanan found the mean temperature under the ice on Loch Lomond† on one occasion to be 34° F., showing that the water at a depth of fifty feet had been cooled about 5° below the maximum density-point before freezing had set in, for after the water is covered by a sheet of ice, loss of heat is due to conduction mainly, which is very slow. In Linlithgow Loch‡ he found indications that the temperature of the water had been cooled down to about 37° before freezing had set in, and I think that in few cases will freezing take place until the water has reached a temperature of between 37° and 38°.

I have made inquiries as to the relation between depth and freezing in our Scottish lochs, and I have found that lochs of a greater depth than 200 feet are seldom covered with ice until the end of January or February, notwithstanding the fact that their temperature will have reached the maximum density-point by the end of December at latest, thus indicating that the temperature of the water must fall appreciably below the maximum density-point before the formation of ice will take place readily. I was at first inclined to distrust the information which led me to this conclusion. It is startling to be informed that Loch Duntelchaig (which has a maximum depth of 205 feet) does not freeze till February or March, save in exceptional winters, but that a single night of sharp, dry, spring frost will cover it with ice. There was a remarkable unanimity in the reports I obtained from different sources as to the freezing of lochs in a single night in spring, which had never been frozen during winter.

I had an opportunity during the past winter of making observations in Loch Garry, and although, owing to the mildness of the season, I did not see the loch completely covered with ice, I saw sufficient to make me believe that the reports I had received of the extraordinary virtue of spring frosts were not overstated. During the latter half of January—from the time I commenced observation—and during February, the weather was very mild, with occasional frosty nights, and during that time no ice was observed on the main part of Loch Garry. In March, however, there was a succession of very calm and clear frosty nights, and, as a rule, there was a considerable quantity of ice on the loch in the morning, which disappeared during the day. On one morning in particular I was surprised to find a large part of the loch covered with ice, although there had been no ice on the previous evening. On this occasion the thickness of the ice close to the deepest part of Loch Garry was nearly half an inch when I measured it about midday. Shortly after this a slight breeze sprang up which had the effect of clearing away the ice in a marvellously short space of time. The temperature of the water was about 37°·5 F. throughout, and a thermometer on the shore of the loch registered a minimum temperature during the night of 25°.

---

* *Trans. Roy. Soc. Edin.*, vol. xlv. part ii. p. 407. *Proc. Roy. Soc. Edin.*, vol. xxviii. p. 2.

† *Proc. Roy. Soc. Edin.*, vol. xiii. p. 403.

‡ *Proc. Roy. Soc. Edin.*, vol. x. pp. 56, 68.

One other thing greatly surprised me. I expected that when a loch became covered with ice, the freezing of the water would begin round the shores and gradually creep in towards the centre. I do not now think that this is always the case. One perfectly calm morning, while rowing up Loch Garry, I came upon several isolated patches of ice at some distance from the shore. It is possible that these patches of ice may have been driven there by winds, but I do not think so. They had all the appearance of having been formed where they were, and there had hardly been a breath of wind. No ice was met with farther up the loch from which the patches could have become detached. Even when large sheets of ice were formed on the loch they formed in curious irregular patches, stretching in long arms out into the loch; frequently at the shores there was open water. It was always when the nights had been calm and clear that the ice was formed, and on these nights the radiation from the loch would be great, so that freezing would take place more readily than on a dull, stormy night. Doubtless the patchy appearance of the loch is to some extent due to portions of the loch being sheltered from breezes by surrounding hills. It may also be due to cold river water flowing over the surface of the loch, and it was observed that ice as a rule formed most readily in the neighbourhood of river mouths.

Another explanation has occurred to me, but it is one which I have not been able to put to a practical test. All those who are familiar with the appearance of sheets of water, either salt or fresh, must have noticed the patchy appearance which the surface frequently has, and which is popularly supposed to mean rainy weather. These oily patches have a peculiarly glassy appearance, and owing to their relatively high surface tension they are not so easily ruffled by light breezes as the remainder of the surface. Accordingly I think that radiation from these patches may proceed at a different rate than from the remainder of the surface. I was strengthened in this view by observing that when the ice which had formed was melting, the surface of the loch in the neighbourhood had the characteristic oily appearance. This explanation would also account for the isolated patches of ice which were observed afloat in the loch.

A few observations were made on the temperature of water in the neighbourhood of the ice following a night during which the minimum temperature recorded was 22°·5 F. The mean temperature of the water was about 37°·5, and the temperature at the surface, where there was open water, measured by dipping the bulb of an ordinary thermometer into the water, was 34°·0. (The thermometer had previously been calibrated by means of ice.) Within a yard of the ice the surface temperature, measured in this way, was 32°·8; 1½ inches under the ice the temperature was 33°·2; at 6 inches below the ice the temperature was 34°·0; at 9 inches 34°·3; and at 1 foot 34°·5. At a depth of 5 feet the temperature was 37°·4, and below that depth the temperature was very nearly uniform. The steepness of the temperature gradient at the surface shows how very rapid the cooling must have been. It also gives some indication of the depth to which radiation from the loch is appreciable.

In calm weather, freezing proceeds much more rapidly and readily than when the water is disturbed by winds; for although the disturbance of the water will favour the formation of ice crystals, the currents produced by the wind mix the layer at the surface, which is cooled by contact with the atmosphere, with the lower and warmer layers of water. In calm weather the surface at first becomes covered with a network of ice crystals, and then a thin sheet of ice is formed, which gradually increases in thickness if the cold continues; if the thin sheet of ice is not broken by waves coming in from open parts of the loch, the thickening of the sheet takes place almost entirely by conduction, for the diathermancy of ice is very small.

But even when the surface of the lake is disturbed by winds and waves, freezing will take place if the cold is sufficiently intense. I have not myself observed freezing which has taken place in this manner, and I am therefore indebted to the accounts of other writers.* The freezing commences by the formation of isolated flakes or crystals of ice of half an inch in diameter or less. By the action of the waves all these flakes are kept separate from one another, but by rubbing together the edges get worn off and the flakes assume a circular form. The small particles of ice worn off by friction between these small flakes gather round their edges and surround them with a margin or wall of friable ice, which has the effect of making the ice-flakes, or "pancakes" as they are called, sink deeper in the water. These "pancakes" gradually increase in thickness by the freezing of the water round them, in the same way as a sheet of ice increases in thickness, and they also increase in diameter by the accession of small floating ice crystals until they may assume a diameter of as much as 3 feet, always surrounded by a wall of friable ice. It is a result of the mode of formation that the section of these "pancakes" is more or less elliptical, being thickest at the centre and gradually getting thinner towards the edges. Whenever the surface of the water becomes calm, all the "pancakes" freeze together and the surface becomes covered by a continuous, though rough, sheet of ice, and thereafter the lake behaves as one which has frozen over in calm weather, and the ice sheet gradually thickens until a thaw sets in.

In Macfarlane's *Geographical Collections*, which have recently been edited for the Scottish History Society by Sir Arthur Mitchell, K.C.B., reference is made on several occasions to waters that do not freeze, and these references have been collected by Sir Arthur Mitchell in the admirable notes which precede each volume. It may be of interest to compare these notes with our present information. The lochs referred to in Macfarlane's *Collections* are—

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* See Forel's *Le Léman*, vol. ii. p. 382.

(1) Loch Dundelchaik (in Inverness-shire), which is said never to freeze in winter, but will freeze with a night or two's sharp spring frost. This is the Loch Duntelchaig referred to above, and the information appearing in Macfarlane's *Collections*, which bears the date 1726, is curiously similar to information which I have recently received from natives of the district, and which is, I think, reliable.

(2) "Our famous Loch Ness never freezes." This is owing to the bulk of water in the lake being so great that it never falls below the maximum density-point. Another reference to the fact that Loch Ness has never been known to freeze may be of interest. It is from the writings of Mrs. Grant, of Laggan—

> "'Midst candy'd snows
> The mighty depths of Ness appear unfroze.
> Majestic lake! which rocky mountains bound,
> Or steepy heights, with yew and holly crowned;
> Fed by thy breath, each bordering tree
> Still with reflected verdure shines in thee;
> While wide the wintry blast in fury roves,
> And strips the graceful foliage from the groves.
> And when each neighbouring lake is chilled to stone,
> Warmth, health, and beauty dwell with thee alone:
> There birds disport, bedecked with plumage gay,
> And snowy swans their stately pride display.
> The ruthless tyrant of the frozen year,
> Repell'd, retiring, shuns thy bosom clear;
> Where downward skies are seen in verdure dress'd,
> Like heav'n's own image in the guiltless breast."

Dwellers on the shores of great lakes are, as a rule, greatly puzzled to account for the fact that the lake does not freeze, and still more by the fact that water taken from the lake freezes readily. I have heard of one boatman who, wishing to keep his boat from getting too dry when laid up for the winter, filled it with Loch Ness water. The result was not what he anticipated, for the water in the boat froze solid and burst his boat to pieces.

(3) Loch Catrine (Katrine). So far as I have been able to ascertain, Loch Katrine has never been frozen over completely.

(4) Loch Maree. I have found it extremely difficult to get information of any sort about Loch Maree, but I was informed that an old gentleman, who had lived on the shores of Loch Maree for thirty-five years never saw the loch frozen but on one occasion, very early in the morning, when he

fancied a mouse might have run across on the film of ice formed from Ardblair to the islands.

(5) White Loch of Myrton. This loch has a maximum depth of only 40 feet, and a mean depth of 13·7 feet. It appears not to freeze very readily, but curling has taken place on the loch on occasions.

(6) There is a small loch in Stratherrick on Lord Lovat's ground, so small that it was not surveyed by the Lake Survey, and, so far as I have been able to ascertain, this loch has never been known to freeze over.

(7) Macfarlane's *Collections* also contain a reference to a loch in Glen Cannich which is never free from ice even in the hottest summer. This is, of course, quite apocryphal.

June 1908.

2.

THE RELATION OF RAINFALL TO THE DEPTH OF WATER IN A WELL.

By JAMES SMITH, Pinewood, Crathes, Kincardineshire.

THE autumn of 1904 and the early part of the following winter were exceptionally dry, and many wells, springs, and small streams in the Crathes district dried up. Much inconvenience was caused by the lack of water, both for man and beast, as it had to be transported for considerable distances. During this period, the well to be subsequently described, and others in the immediate neighbourhood, had to be deepened by several feet.

At this time I took the opportunity of having a copper sphere floated on the surface of the water of the well at Pinewood; to the float is attached a long brass chain, which passes over a pulley near the well-cover and runs horizontally along a box to a wall, passes under another pulley, rises vertically and passes over a third pulley about 8 feet above the surface of the ground. To the loose end of the chain is attached a weight which keeps the whole length of the chain taut. Immediately behind the chain is a scale about 8 feet long, divided into inches, and attached to this chain a marker is fixed which corresponds on the scale to the depth of water in the well before the cover was laid down. Thus the depth of water can be ascertained at any time by merely reading from the scale without trouble; for, when the water in the well rises or falls, the weight keeps the chain tight, and the exact depth is indicated by the pointer on the chain. The effect of variation of temperature on the length of the chain is negligible, as the whole apparatus is underground or enclosed in a box, and the co-efficient of expansion of brass is so small that no allowance has been made for instrumental error caused by change of temperature. The depth of the water was noted to tenths of an inch, but is given in the statistics hereafter quoted to the nearest half-inch.

The surface of the well is 141 feet above mean sea-level, and is situated on the left bank of the river Dee, which falls into the German Ocean about 15 miles to the east. The well is about 500 yards from the brink of the river, is 17 feet deep, and lined with clay pipes 2 feet in diameter, which are cemented together so that water can enter only at the bottom. The bottom of the well is 10 feet above the ordinary level of the river.

Obviously in considering the relationship of the depth of water in a well to the incidence of rainfall, the geological formation of the immediately surrounding district must be taken into account. The accompanying rough diagram (Fig. 1) shows a section one mile in width across the valley of the Dee at Crathes, the vertical scale of the diagram being exaggerated twenty times.

The river Dee was unquestionably at one time from 700 to 800 yards farther to the north than it is to-day, and has left a series of river terraces which gradually rise to more than 100 feet above its present bed. It is on one of these terraces that the well under consideration is situated. The rain falling on this and the higher ground gradually sinks into the sand and moves down towards the river, but is stopped by a clay bar, or "dyke," about 50 yards south of the well. It is here checked, and thus the sand becomes waterlogged. It may be mentioned that occasionally fragments of striated boulders are met with, which, taken in conjunction with the sand deposit, etc., indicate that during the glacial period there was about this spot the entrance of a glacial-fed river into a freshwater lake.

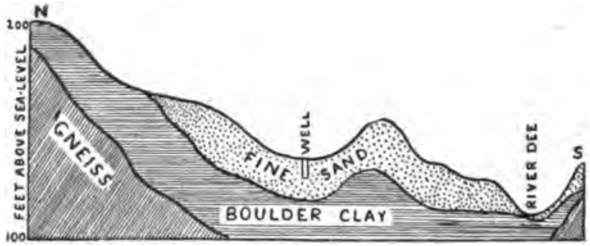

FIG. 1.—Section across the Dee at Crathes.

The well at Pinewood is in constant use for domestic purposes, and by means of a hand force-pump 120 gallons of water can be drawn in twenty minutes. At first the water-level falls rather rapidly, and then the rate of fall gradually slows down until about 80 gallons have been discharged. The water surface has then fallen to about 10 inches, and cannot be lowered beyond that point, as, owing to the increased pressure from below, water flows in as fast as it can be pumped out. On pumping being stopped, the water rises rapidly at first, and then rather slowly, reaching its former level in seven minutes. In my experience of the well, I have never known this recovery of level fail to take place; and, of course, the measurements of the depth of water in the well on which this paper is based were made at a suitable interval after water had been drawn from the well.

It will be convenient to give the monthly rainfalls at Crathes for the five years 1903–1907, which were as follows:—

TABLE I.—RAINFALL AT CRATHES.

	1903.	1904.	1905.	1906.	1907.
	ins.	ins.	ins.	ins.	ins.
January	5·05	2·00	·67	2·26	1·84
February	3·87	5·39	1·89	2·25	2·00
March	3·58	3·19	3·20	1·80	·83
April	3·04	1·48	2·48	2·16	1·83
May	2·38	2·42	·88	5·36	4·83
June	1·70	·65	·51	·58	4·07
July	4·89	1·37	1·70	1·50	1·49
August	4·65	2·66	3·39	3·04	2·06
September	3·03	2·07	2·03	·61	·87
October	7·07	·57	3·76	5·88	5·54
November	2·24	1·33	9·41	5·12	2·49
December	4·49	2·02	1·04	3·66	3·58
YEAR	45·99	25·15	30·96	34·22	31·43

TABLE II.—RAINFALL AND DEPTH OF WATER WEEK BY WEEK, 1905–1907.

Week ending.	Rainfall.	Depth in Well.	Week ending.	Rainfall.	Depth in Well.	Week ending.	Rainfall.	Depth in Well.
1905.	in.	ft. in.	1906.	in.	ft. in.	1907.	in.	ft. in.
Jan. 7	·31	3 3½	Jan. 6	1·41	7 1	Jan. 5	1·52	7 7
,, 14	·05	3 2	,, 13	·21	7 2½	,, 12	...	8 2
,, 21	·27	3 1½	,, 20	·26	7 1½	,, 19	...	8 5½
,, 28	·03	3 1½	,, 27	·04	7 1	,, 26	·27	8 7½
Feb. 4	·12	3 1½	Feb. 3	·66	7 0½	Feb. 2	·26	8 6½
,, 11	·16	3 2	,, 10	·60	7 0½	,, 9	·32	8 7
,, 18	·29	3 4	,, 17	·60	7 0	,, 16	·96	8 10½
,, 25	·85	3 6	,, 24	·66	7 2	,, 23	·72	8 6
Mar. 4	·67	3 7½	Mar. 3	·15	7 2½	Mar. 2	·04	8 5
,, 11	1·23	3 7½	,, 10	·42	7 0½	,, 9	·19	8 5½
,, 18	·92	3 8	,, 17	·58	6 11	,, 16	·47	8 4
,, 25	·82	3 8	,, 24	·54	6 11	,, 23	·15	8 1
			,, 31	·15	6 10½	,, 30	...	8 0
April 1	·13	3 8						
,, 8	·18	3 9	April 7	·10	6 10	April 6	·85	7 11
,, 15	1·40	3 9½	,, 14	·11	6 9	,, 13	·65	7 9
,, 22	·16	3 10	,, 21	·80	6 8½	,, 20	·10	7 7
,, 29	·36	3 10½	,, 28	1·15	6 8	,, 27	·11	7 5½
May 6	·36	3 11	May 5	·68	6 6½	May 4	·43	7 2½
,, 13	...	3 11	,, 12	·66	6 6	,, 11	·39	7 1
,, 20	...	3 11	,, 19	2·32	6 8½	,, 18	·05	6 10
,, 29	·68	3 11½	,, 26	1·20	6 11	,, 25	2·43	6 9
June 3	·22	3 10½	June 2	·55	7 1	June 1	2·12	6 10
,, 10	·08	3 10	,, 9	·08	7 1½	,, 8	·92	7 2
,, 17	...	3 9½	,, 16	·16	7 1½	,, 15	1·04	7 3½
,, 24	·31	3 9½	,, 23	·07	7 1	,, 22	·81	7 4
			,, 30	·22	7 0	,, 29	·80	7 3
July 1	·09	3 8						
,, 8	·42	3 7½	July 7	·16	6 10	July 6	·35	7 3
,, 15	·38	3 6½	,, 14	·41	6 9	,, 13	1·85	7 1½
,, 22	·60	3 6	,, 21	·07	6 7	,, 20	...	7 2½
,, 29	·23	3 4½	,, 28	·04	6 5	,, 27	1·17	7 1½
Aug. 5	1·47	3 4	Aug. 4	1·77	6 4½	Aug. 3	·31	7 0
,, 12	·45	3 3	,, 11	·55	6 4	,, 10	·22	6 8½
,, 19	·60	3 2	,, 18	·80	6 2	,, 17	·59	6 7
,, 26	·60	3 1½	,, 25	·69	6 0	,, 24	·65	6 5
						,, 31	·44	6 3½
Sept. 2	·49	3 1	Sept. 1	·04	6 0			
,, 9	·21	3 0	,, 8	·20	5 9	Sept. 7	·79	6 2
,, 16	·06	2 11½	,, 15	·41	5 8	,, 14	·04	6 0½
,, 23	·04	2 10½	,, 22	...	5 6	,, 21	·01	5 10½
,, 30	1·50	2 10	,, 29	...	5 5	,, 28	...	5 9
Oct. 7	·58	2 9½	Oct. 6	·67	5 3	Oct. 5	·16	5 7½
,, 14	·30	2 8½	,, 13	1·19	5 2	,, 12	2·62	5 7
,, 21	·66	2 8	,, 20	1·98	5 0	,, 19	2·18	5 10
,, 28	·87	2 7½	,, 27	1·16	5 1	,, 26	·54	5 10½
Nov. 4	3·08	3 0½	Nov. 3	3·64	5 9	Nov. 2	·44	5 10
,, 11	3·52	3 5	,, 10	1·14	6 5	,, 9	·23	5 10½
,, 18	2·38	5 3	,, 17	·34	6 9	,, 16	·23	5 10
,, 25	·09	5 10	,, 24	·45	6 10½	,, 23	·64	5 11
						,, 30	1·12	6 0
Dec. 2	1·20	6 3½	Dec. 1	·47	7 1			
,, 9	·25	6 7½	,, 8	·23	7 1	Dec. 7	·81	6 1½
,, 16	·26	6 10½	,, 15	·74	7 1	,, 14	1·18	6 3
,, 23	·31	6 11	,, 22	·10	7 1	,, 21	·75	6 7
,, 30	·21	7 0	,, 29	2·34	7 2	,, 28	·52	6 9

In Table II. are given week by week for each of the three years 1905–1907 the total rainfall for the week, and the depth of water in the well as measured on the last day of the week.

From the foregoing statistics it appears that the course of events during the three years 1905–1906 was as follows:—

1905.—At the beginning of 1905, the water in the well stood at the unusually low winter-level of about 40 inches. A month later the level was lower by some 2 or 3 inches, and then followed a slight but quite definite rise until the beginning of June, when there was a secondary maximum for the year of practically 4 feet. Then came a steady fall to a minimum of hardly more than 2½ feet at the end of October, and from this lowest level there was an abrupt and very rapid rise: in three weeks the depth of water had doubled, and at the end of the year there were 7 feet of water in the well.

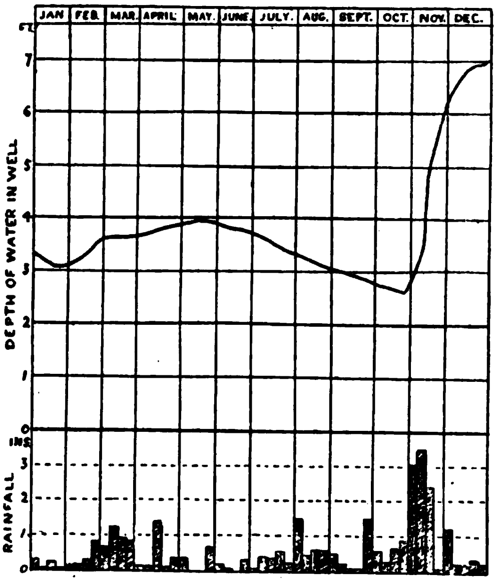

FIG. 2.—Weekly Rainfall and Depth of Water in Well in 1905.

Comparing, now, our well-curve with the incidence of the rainfall from week to week (Fig. 2), the following are the most striking points:—(1) Two rainless weeks in May were not accompanied by any interruption of the slight spring rise in the depth of water in the well. (2) A wet week in July and a wet week in August did nothing to check the steady summer fall in the depth of the water. (3) The response of the water-level to the great rains of November was immediate.

The extreme levels of the surface of the well water were—

Highest Level . . . . = 7 ft. 0 in. in December.
Lowest Level . . . . = 2 ft. 7½ in. in October.
Range . . . . = 4 ft. 4½ in.

1906.—At the beginning of 1906 there was twice as much water in the well as twelve months earlier, and during the year the water never fell lower than 5 feet, while in 1905 that depth was exceeded only during the last seven weeks of the year. Though in 1906 the range was but slight—hardly more than 2 feet—the curve is not so smooth as that for 1905. A wet May (5·36 inches) raised the water-level half a foot, and the fall from June to a minimum near the end of October was very sharp.

Again comparing the well-curve with the weekly rainfall amounts (Fig. 3), the most noteworthy point is, perhaps, that the falling curve from June to

October pursues as steady a downward course during the moderate rains of August as during the absolutely dry weather of the second half of September.

The extreme levels of the surface of the well were—

Highest Level . . . . = 7 ft. 2 in. in January and December.
Lowest Level . . . . = 5 ft. 0 in. in October.
Range . . . . = 2 ft. 2 in.

1907.—The surface of the well at the beginning of 1907 stood at a level of about 7½ feet, from which point there was a rapid rise to a maximum for the year of nearly 9 feet about the middle of February. Then followed a steady fall until about the end of May, with a slight rise during June, and then the characteristic summer drop to a minimum in October. The recovery from this minimum was not so rapid as in the two preceding years.

Once more comparing the well-curve with the weekly incidence of rainfall (Fig. 4), it is remarkable that whilst no rain fell during two weeks in January, the level of the well rose during that time. Again it is noteworthy, as in 1905 and 1906, that the steady fall to the October minimum is apparently uninterrupted by the occurrence or non-occurrence of rain.

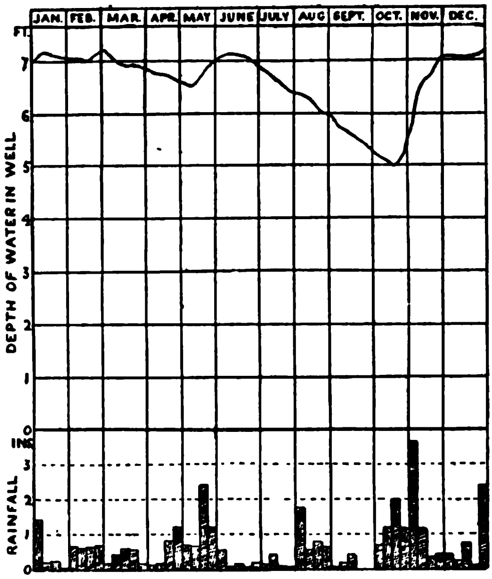

FIG. 3.—Weekly Rainfall and Depth of Water in Well in 1906.

The extreme levels for the surface of the well were—

Highest Level . . . . = 8 ft. 10½ in. in February.
Lowest Level . . . . = 5 ft. 7 in. in October.
Range . . . . = 3 ft. 3½ in.

One would not attempt to generalise from the results of only three years' observations, but the following points are clear:—

(1) Whatever the amount and distribution of the year's rainfall, the well water has a minimum level at the middle or end of October.

(2) Weekly observations very often do not show any marked correspondence between the rainfall and the variation in the depth of the well water.

(3) It is obvious that the geological formation of the immediate neighbourhood is an important factor in the problem, *e.g.* No rain fell during the two weeks ending 19th January 1907, yet during that period the level of the well rose by nearly 1 foot. This rise must be accounted for by the gradual percolation of water through the layers of fine sand till the lowest possible point was reached, which happens to be just below the well at Pinewood (*v.* Fig. 1).

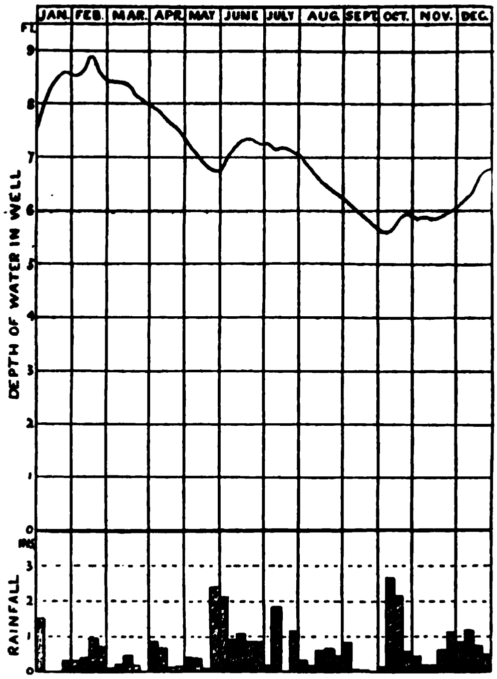

FIG. 4.—Weekly Rainfall and Depth of Water in Well in 1907.

In concluding these brief notes, it is proper to state that the making of the observations discussed was suggested by a paper by Dr. C. P. Hooker, published in 1903,* in which data for a well near Cirencester, and not far from the source of the Thames, are dealt with fully. This paper covers the considerable period of sixteen years (1887–1902), and along with a supplementary paper, published in 1907,† in which four additional years are considered, forms a most important contribution to practical meteorology.

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* "The Relation of the Rainfall to the Depth of Water in a Well," by Charles P. Hooker, L.R.C.P., *Quarterly Journal of the Royal Meteorological Society*, vol. xxix., 1903, pp. 263–282.

† Do. do., vol. xxxiii. pp. 287–293.

July 1908.

3.

THE RANGE OF MONTHLY MEAN TEMPERATURE AT EDINBURGH, VIENNA, AND STOCKHOLM.

By R. T. Omond, F.R.S.E.

The mean temperature of a month in any year is a measure of one of its most important qualities, and the difference in the mean temperature of any one month, from year to year, gives a scale by which one can definitely state values corresponding to such expressions as unusually mild, very cold, etc., as applied to the general weather of a month. To compare these variations properly, it is necessary to determine for each month of the year the average value of the monthly mean temperature for a long period, and this can only be done for places where records of temperature have been kept during many years. Mr. R. C. Mossman has provided such a record for Edinburgh in a valuable series of papers on the Meteorology of Edinburgh, contributed to the Royal Society of Edinburgh, and published in their *Transactions*.* In these papers he discussed the meteorological observations made in and near Edinburgh during 137 years, ending with 1900, and, as regards temperature, he not only brought together the scattered records for this long period, but reduced them by applying corrections depending on the hour of the day at which observations were made, the height of the station above sea-level, and the mode of exposure of the thermometers. He gives a table of the mean temperature of each month in the 137 years, which temperatures are all comparable with each other, because, though observed in a variety of ways and at different positions in the neighbourhood, they have been corrected so as to be similar throughout to the mean of maximum and minimum thermometers, read daily, and situated in Edinburgh at 250 feet above sea-level.

Selecting from this table the 100 years 1801 to 1900 inclusive, the temperature of each month in each year has been compared with the average temperature of that month for the 100 years. The result is shown in Table I. page 236, where the first column gives the average temperature of each month for the 100 years, and the subsequent columns the number of cases in which the monthly mean temperatures differed by 0, 1, 2, 3, etc., degrees from that average value. The central column, headed Mean, includes all cases where the temperature is less than half a degree above or below the 100-year average value; those to the left of the mean column, the number of cases that are within half a degree of 1, 2, 3, etc., degrees below the average, and those to the right, the number of cases that are similarly above the average. As 100 cases for each month are dealt with, these figures in this

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* *Trans. Royal Soc. of Edinburgh*, vol. xxxviii. p. 681, vol. xxxix. p. 63, and vol. xl. p. 469.

Table give the percentage frequency of each departure from the average temperature. The last column to the right gives the average departure, irrespective of sign, for each month. It is computed by adding together the amount that each month differs from the 100-year average value and dividing by 100.

At the foot of the main table the values are repeated in groups of three months each, thus giving seasonal values. The results for winter (December, January, February) and summer (June, July, August) are also shown graphically by the curves in Fig. 1.

The number of cases in which the temperature is close to the average value, that is that are entered in the Mean column, is not great in any month, ranging from 5 per cent. in February to 24 per cent. in April and September. The Table shows that the extreme range of departure from the average values is much greater in winter than in summer. Thus in January the extremes are 11° below and 8° above the average, a total range of 19°; while in July the extremes are 4° below and 6° above, a range of only 10°. The mean departures are also greater in winter than in summer, the value for the three winter months (December, January, February) being 2°·50, and for the three summer months (June, July, August) only 1°·46.

The coldest month in the 100 years was January 1814, whose temperature was 26°·5; the next coldest being January 1881, temperature 29°·1. The warmest month was July 1852, the temperature of which was 64°·0; the next warmest being July 1803, temperature 62°·8.

The relative frequency of different departures from the mean values is perhaps more easily understood from the curves in Fig. 1 than from the numbers in the Table. The central vertical line represents the mean temperature of each season for 100 years, and the figures at the top to the right and left of this line the amounts in degrees above and below that mean, while the height of the curve shows the relative frequency of monthly temperatures corresponding to each of these values. The curves are drawn by plotting the seasonal values in Table I., minor irregularities being smoothed out. The greater range of monthly temperatures in winter is shown by the wider extension of the curve for that season, while the summer curve all lies nearer to the central line.

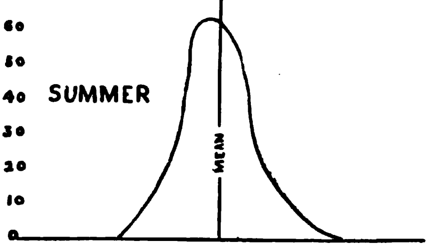

FIG. 1. — Edinburgh. — Range of Monthly Mean Temperature in Winter and Summer.

If the weather conditions that influence the temperature of a month in any year, bringing it above or below the average value for that month, acted equally powerfully in either direction, the maximum frequency would coincide with the mean value, and the curve fall away symmetrically on each side from the mean line. But a glance at the curves in Fig. 1, or an examination of the numbers in each column of Table I., will shew that the values are not distributed equally and symmetrically on each side of the mean. The highest part of the curve is 2° above the mean value in winter, and about 1° below it in summer. That is to say, in neither season is the most frequent temperature the same as the average temperature; the greater number of winter months are a little above the average temperature, but these are balanced by a smaller number that are a larger amount below it, and the converse holds for summer. In other words, the occasional occurrence of unusually cold and the absence of correspondingly warm months in winter, places the arithmetical average below the most frequent value; while the occurrence of unusually warm months in some summers, and the absence of any correspondingly cold months, places the summer average above the most frequent value. Hence we are justified in saying that most winter months are warmer, and most summer months cooler, than the average temperature at each season would lead one to expect.

The variation in the temperature of any month from year to year is mainly due to differences in the distribution of barometric pressure over the British Isles and the neighbouring lands and seas. In winter, if there be low pressures to the west or north of our islands, and higher pressures to the south, then warm southerly and westerly winds are drawn in over the British Isles and temperatures are high. But if, on the contrary, the barometer is low in the south and higher to the north or west of these islands, we have cold northerly and easterly winds. Usually these distributions of barometric pressure fluctuate and interchange, but frequently one or the other condition persists for some weeks, and so dominates the temperature of a whole month. In summer the influence of the barometric pressure is simpler and more direct. When the barometer is high over and around our islands the sky is clear and the weather sunny and warm, but if it is low the sky is clouded, rain frequent, and the temperature low. The effect of a clear sky in summer is to raise the temperature of a month, but in winter to lower it, for the sun's rays at the latter season have little heating power, and the absence of cloud allows the lower atmosphere to cool by radiation during the long nights. These clear nights often accompany northerly winds in winter, and intensify their cooling effect on the weather. The heat received from the sun in any month is a constant quantity from year to year, and variations in the monthly temperatures in successive years are due to changes in the amount of interference with solar action by weather. The most important factors in this interference are—the transference of air from a warmer or a colder region by wind, the greater or lesser amount of cloud, the varying amounts of solar energy absorbed in evaporating water, and the liberation of heat by the condensation of vapour into cloud and rain.

The greater range of mean monthly temperature in winter, as compared with summer, is accompanied by a greater range of barometric pressure. The difference between the highest and lowest mean monthly pressures at Edinburgh in winter is over one inch, but in summer only about six-tenths of an inch. Extreme daily readings are also a winter phenomenon, all the values above 31·0 inches and below 28·1 inches at Edinburgh having been recorded in December, January, or February.*

The variations of mean monthly temperatures are less in summer than in winter, but the character of the curve of frequency is similar at each season, though differing in scale owing to the less range in summer. The mean departures in the last column of Table I. are a measure of the variation of monthly temperature at each season. The values for winter and summer are respectively 2°·50 and 1°·46, and the summer range may be regarded as contracted compared with winter in the ratio of these two quantities, the frequency numbers for summer in each column being correspondingly augmented. If, therefore, the figures on each side of the mean at the top of Table I. be increased in the ratio 2·50 to 1·46, and the entries in the June–July–August line diminished in the ratio of 1·46 to 2·50, frequency values for summer are obtained that are in the same proportion to the mean departure in summer that the winter values in Table I. are to the mean departure for winter.

SUMMER—Adjusted Values.

Range from mean . .	8·5	6·8	5·1	3·4	1·7	Mean	1·7	3·4	5·1	6·8	8·5	10·3
Frequency . . .	0·6	5·9	8·8	18·8	39·4	34·7	33·5	14·7	12·4	5·3	0·6	1·8

Plotting these values we get the curve shown by the dotted line in Fig. 2. On the same diagram the winter curve of frequency is given, and it is evident that this adjusted form of the summer curve is substantially the winter curve reversed end for end—it has its maximum value away from the mean line, and each portion of the rest of the curve is a fairly close copy of the corresponding part of the winter curve at the other side of the mean line. That is to say, if the departures from the mean at each season are measured not in degrees, but in fractions of the mean departure for each season, the relative frequency of departures above the mean in summer become equal to that of departures below the mean in winter, and *vice versâ*. The peculiar form of both curves is probably due to the occasional occurrence of months with little cloudiness, the temperatures of which are therefore greatly influenced by solar and terrestial radiation, the former raising the temperature of such months in summer, and the latter lowering it in winter. The frequency values in Table I. for spring (March, April, May) and autumn (September, October, November) are more symmetrical on each side of the mean than those of either winter or summer, as might be expected, for at these seasons the days and nights are more nearly equal in length, and therefore the effects of solar and terrestial radiation balance each other, and do not either raise or lower the mean temperature of a month.

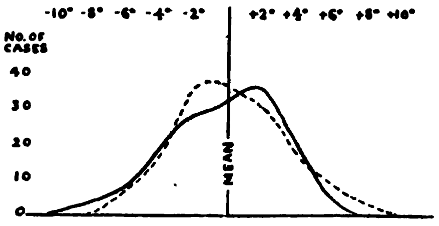

FIG. 2.—Edinburgh.

Adjusted summer curve...............

Winter curve————————

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* *Trans. Royal Soc. of Edinburgh*, vol. xxxix. p. 115 and vol. xl. p. 494.

RANGE AT VIENNA AND STOCKHOLM.

A table of the mean monthly temperatures at Vienna, from 1775 to 1900, is given in Dr. Hann's valuable monograph on the climate of Vienna,* and a similar table for Stockholm, for the years 1756 to 1905, forms part of a paper communicated by Dr. H. E. Hamberg to the Royal Society of Sweden.† The monthly temperatures for the 100 years 1801 to 1900 have been extracted from these tables and arranged according to their departures from the 100-year average for each month in the same manner as was done for Edinburgh. The results, grouped in seasons of three months each, are given in Table II., and shown by curves in Figs. 3 and 4. At both Vienna and Stockholm the range at all seasons is greater than at Edinburgh, but the distribution of frequency above and below the average temperature is very similar.

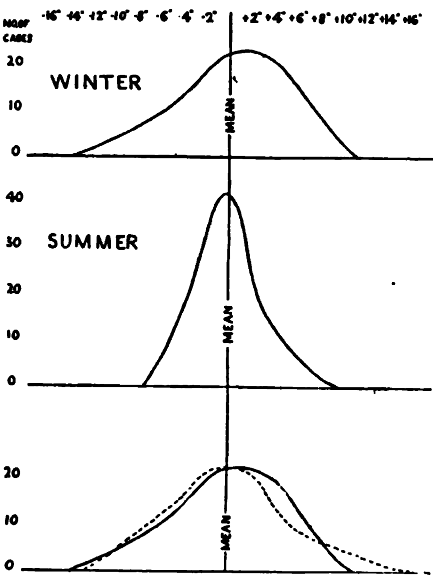

FIG. 3.—Vienna.—Range of Monthly Mean Temperature.

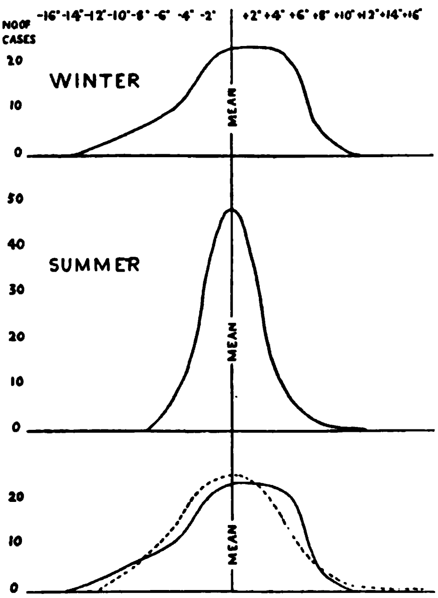

FIG. 4.—Stockholm.—Range of Monthly Mean Temperature.

This will be seen if the winter and summer curves for Vienna and Stockholm are compared with the corresponding curves for Edinburgh in Fig. 1, in each case the bulkiest part of the winter curve is a little above, that is to the right of, the central line of mean temperature, and the maximum in summer below it.

The mean departures at these places are also greater, the values for winter (December, January, February) being—

Edinburgh, 2°·50; Vienna, 4°·02; Stockholm, 4°·19.

[*Continued on page* 237.

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[*] *Die Meteorologie von Wien.* Julius Hann.

[†] *Moyennes Mensuelles et Annuelles de la Température à l'Observatoire de Stockholm.* H. E. Hamberg.

TABLE I.—NUMBER OF CASES OF DEPARTURES FROM THE AVERAGE TEMPERATURE OF EACH MONTH, AT EDINBURGH, 1801–1900.

	Average Temperature.	Below Mean.											Mean.	Above Mean.									Mean Departure.
	°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°		1°	2°	3°	4°	5°	6°	7°	8°	9°	°
January	37·1	1	...	...	1	1	4	3	3	4	13	9	13	11	17	7	9	3	...	...	1	...	2·47
February	38·4	...	...	1	1	1	...	4	6	10	8	13	5	15	16	10	5	4	1	...	...	...	2·48
March	40·5	...	...	...	...	...	1	...	8	12	10	9	15	15	17	7	4	1	1	...	...	...	2·04
April	44·7	...	...	...	...	...	1	...	8	4	14	9	24	13	16	5	5	1	...	...	...	...	1·70
May	49·9	...	...	...	...	...	...	2	6	5	16	14	14	21	12	4	3	1	2	...	...	...	1·79
June	55·7	...	...	...	...	...	...	...	4	6	8	23	22	19	7	7	2	...	2	...	...	...	1·42
July	58·5	...	...	...	...	...	...	...	3	4	14	19	18	23	7	7	4	...	1	...	...	...	1·45
August	57·7	...	...	...	...	...	...	1	3	5	10	25	19	15	11	7	3	1	...	...	...	...	1·52
September	53·7	...	...	...	...	...	1	...	2	6	12	21	24	17	6	5	3	2	1	...	...	...	1·50
October	47·4	...	...	...	...	...	...	1	5	8	14	13	20	10	14	8	5	2	...	...	...	...	1·81
November	41·5	...	...	...	...	1	...	1	5	9	12	12	18	15	11	9	3	3	1	...	...	...	1·89
December	38·5	...	...	...	1	1	1	6	4	12	11	8	12	13	10	9	5	3	1	1	1	1	2·56
Sum	...	1	...	1	3	4	8	18	57	85	142	175	204	187	144	85	51	21	10	1	2	1	...
Dec., Jan., Feb.	38·0	1	...	1	3	3	5	13	13	26	32	30	30	39	43	26	19	10	2	1	2	1	2·50
March, April, May	45·0	...	...	...	...	...	2	2	22	21	40	32	53	49	45	16	12	3	3	...	...	...	1·84
June, July, August	57·3	...	...	...	...	...	...	1	10	15	32	67	59	57	25	21	9	1	3	...	...	...	1·46
Sept., Oct., Nov.	47·5	...	...	...	...	1	1	2	12	23	38	46	62	42	31	22	11	7	2	...	...	...	1·78

TABLE II.—NUMBER OF CASES OF DEPARTURE FROM THE AVERAGE TEMPERATURE OF EACH MONTH, AT VIENNA AND STOCKHOLM, 1801–1900.

	Below Mean.																			Mean.	Above Mean.											
	19°	18°	17°	16°	15°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°		1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°
VIENNA—																																
Winter	...	...	1	...	...	...	3	2	3	6	4	10	8	8	11	11	14	21	27	22	24	17	23	24	23	18	7	4	5	3	1	...
Spring	...	...	...	...	...	...	...	...	1	...	1	4	4	8	17	15	26	21	37	34	24	34	21	21	14	12	2	2	2	...	...	...
Summer	...	...	...	...	...	...	...	...	...	...	...	...	...	4	8	14	22	37	46	48	45	22	21	22	3	5	1	...	...	1	...	1
Autumn	...	...	...	...	...	...	...	...	...	...	...	2	2	5	10	19	25	31	32	39	40	35	25	12	19	1	2	1	...	...	...	...
Sum	...	...	1	...	...	...	3	2	4	6	5	16	14	25	46	59	87	110	142	143	133	108	90	79	59	36	12	7	7	4	1	1
STOCKHOLM—																																
Winter	1	...	...	...	2	1	2	1	3	6	6	6	9	12	8	11	21	14	24	23	24	21	16	30	18	11	15	6	5	3	...	1
Spring	...	...	...	...	...	...	...	1	...	2	...	4	3	7	21	22	16	22	31	29	34	30	30	20	11	10	4	1	1	...	1	...
Summer	...	...	...	...	...	...	...	...	...	...	...	...	4	2	11	16	26	34	34	50	41	26	20	8	14	9	2	2	1	...	...	...
Autumn	...	...	...	...	...	...	...	...	...	1	...	1	2	4	8	18	25	32	36	51	33	33	21	19	8	2	5	1	...	...	...	...
Sum	1	...	...	...	2	1	2	2	3	9	6	11	18	25	48	67	88	102	125	153	132	110	87	77	51	32	26	10	7	3	1	1

Continuation of page 235.]

And for summer (June, July, August)—

Edinburgh, 1°·46; Vienna, 2°·07; Stockholm, 2°·29.

Adjusting the summer values by the ratio of the winter an departures in the same way as was done for Edinburgh, which are represented in the two lowest diagrams on Fi the dotted lines, the full lines being as before the wint evident that, as at Edinburgh, the summer frequency curve for range, closely resembles the winter curve with signs re the same laws which govern the relative frequency of depa average monthly temperatures at Edinburgh, control thes Vienna and at Stockholm, though in other respects the different at each of these places.

August 1908.

4.

THE CLIMATE OF ORKNEY.

By MAGNUS SPENCE, F.E.I.S., Deerness.

THE Orkney Islands lie between 58° 45′ and 59° 22′ N lat. and 2° 22′ and 3° 25′ W long. The range is very limited, and the climate within these limits is so much modified by the currents and moisture-laden winds of the Atlantic as to be unrecognisable by its latitude. As a whole, the climate does not differ greatly from that of the rest of Scotland. It avoids extremes, for it is neither so wet as the west of Scotland, nor so dry as the east; neither so cold as the inland districts in winter, nor so mild as in summer. Its one outstanding characteristic is wind. No other region in Great Britain can compare with it for the violence and frequency of its winds—

> "There the fierce storm and maddening surge
> Howl loud and long."

Although the climate of Orkney is free from the extremes of continental climates, its vagaries defy the systematic classifications of the Meteorologist. We divide the year into seasons, but winter often runs into spring and autumn into winter. In April—as in the present year, 1908—we may have Arctic weather, really the Christmas snowstorm of the year, and at Christmas the mild weather of Biarritz. No May passes, and June very seldom, without a considerable sprinkling of snow and hail. After autumn has gathered her sheaves there invariably comes a fortnight or three weeks of the finest of weather towards the end of November, known in Orkney as the "Peerie Summer." We have no well-defined wet and dry seasons. This year, owing to the excessive wetness of April and May, when we generally expect dry weather, the farmers were busy sowing the latter half of the oat crop, and the usual bere one, during the third and fourth weeks of May. The occurrence is said to be unprecedented.

EARLY REFERENCES TO THE SUBJECT.

Whatever reference there is to climatic conditions in the many history books of the county, there is nothing but vague and unreliable generalisations which are elusive when closely examined. The Rev. J. Wallace, Minister of Kirkwall Cathedral, says, in 1693: "Our winters are generally more subject to rain than to snow, nor does the frost and snow continue so long here as in other parts of Scotland, but the winds will in the meantime blow very boisterously." James Butler, Sheriff-Depute of Orkney, states that in 1648 the crops were so poor that there was great famine among the poor people. Mr. Mathew Mackaile, MS., Advocates' Library, Edinburgh, says: "In January 1665 the frost and snow continued for fourteen days, and the like thereof none then alive had seen there."

Sheriff, in his *Agricultural Report of Orkney Islands* in 1814, says—

> "A peculiar dampness of the air which is almost perpetual prevails. The springs are late and the vegetation rather slow and backward, the prevailing winds during that season being from the north. This cold uncongenial weather sometimes continues till the month of June is considerably advanced."

Barry, in his *History of Orkney* in 1805, says—

> "Many hundred years ago it was observed that the SW wind was more prevalent than any other in Great Britain. The same observation may with propriety be extended to Orkney. From the SE, too, the winds are very frequent, and sometimes even stormy. In the spring, summer, and harvest, while these winds prevail, the weather is sometimes dry and cold, sometimes damp, and not unfrequently thick, dark, foggy, and when this last kind of weather continues for any time it seldom fails to depress the animal spirits and generate colds, coughs, sore throats, and similar complaints. Some part of the month of June is here often not only colder than the preceding months, but almost as much so as any winter month. For about two weeks, and sometimes more, the wind blows from the north, strong and piercing, accompanied with snow and hail showers which clothe the fields with a dreary aspect by checking the progress of the young plants, and to a stranger would seem to threaten the islands with famine. The cause of this unnatural cold evidently is the dissolving of the immense fields of ice in the Northern Ocean and the consequent evaporation."

POSSIBLE OSCILLATIONS OF CLIMATE.

No one could reasonably expect any definite remarks about climatic conditions before the introduction of recording instruments, and the vagueness of what references we do find makes them scientifically of little value, though they are of general interest. The statement, however, of Mr. Mackaile is rather a strange one. It might have been passed over by treating it as a casual remark, but he seems to have had an intimate acquaintance with the local tides, from which we may infer that he also knew the climate. That two hundred and forty-three years ago no one should have remembered snow and frost of longer duration than a fortnight is strange.

Octogenarians of to-day never tire of reminding us that when they were boys the length and frequency of snowstorms greatly exceeded those of the present day. In 1895 we had a severe winter, when snow covered the ground for fifty days in January, February, and the first week of March, continuously for at least six weeks, and with drifts of five, six, and even seven feet. Snowstorms of such dimensions visit us but rarely, but our fathers say they were of common occurrence one hundred years ago. If this statement of Mackaile is reliable, our winter climate oscillates in long periods from mild to more severe. Statistics are too few at present to do more than suggest explanations. Two centuries and a half ago the winters were mild; a century ago they were somewhat more severe; now they appear to be again getting milder. Except for four days in February and four in April, the ground was not covered with snow last winter. In regard to fog and dampness, it is probable that the change in this respect is small. Surrounded as the islands are by seas, which at every radical change of temperature are liable to produce fog, and swept almost daily by the heavily laden moisture-bearing winds of the Atlantic, the wonder is the humidity is so moderate.

We give in Table I. humidity statistics for three characteristic stations, a northern, an eastern, and a western—Deerness, Aberdeen, and Rothesay.

TABLE I.

MEAN HUMIDITY, 1894–1903.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.
	%	%	%	%	%	%	%	%	%	%	%	%	%
Deerness .	84·6	84·2	85·0	86·0	83·8	87·5	88·2	88·3	87·5	85·2	86·3	85·1	86·1
Aberdeen .	81·7	79·3	80·8	79·9	77·8	78·1	77·7	79·2	82·2	83·4	83 2	82·9	80·1
Rothesay .	87·0	85·8	84·4	82·0	77·0	80·9	84·4	85·8	87·4	88·4	88·8	88·5	85·0

These figures are the means of morning and evening observations, and are plotted in Fig. 1. The curves show at a glance that Aberdeen is much drier than either Deerness or Rothesay, and that Rothesay is damper during the autumn and winter months, but much drier in summer. Dundee, with its smoke-laden atmosphere so productive of vapour, is the only east coast station as humid as Deerness. Several stations on the west coast, and most of those at high elevations, are damper, but Orkney is considerably above the mean for Scotland.

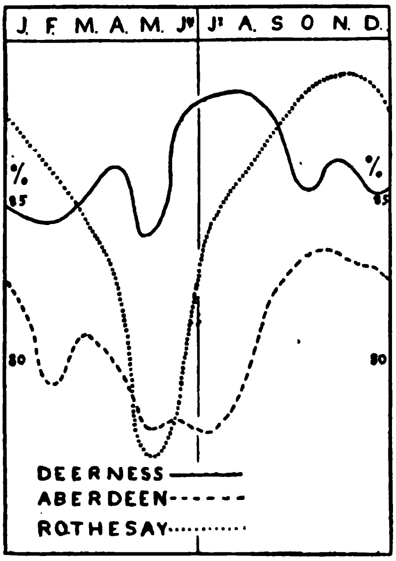


FIG. 1 .—Mean Monthly Humidity.

We may note that Dr. Clouston, in a paper published in 1861 by the Board of Trade, stated that the humidity of Orkney averaged 84·1 per cent., which was below the mean for Scotland. It is difficult to reconcile this statement with the information afforded by more recent statistics.

THE WANT OF TREES.

> " The circling hills all bare and wild,
> Bare with the blight of thousand years."

Nothing in the Orkneys strikes the eye of the stranger so much as the bare, bleak, treeless stretch of undulating country intersected by sounds, firths, and rushing tideways, and relieved only, if relief there be, by the rounded hummocky hills. This description applies only in winter and early spring. Summer brings green fields, purple hills, blue seas, and a variety of cloud effect, so that these contrasts and high colourings make the whole group of islands present a charming scene, to which trees, if added, would seem superfluous. Many surmises have been made as to the cause of this treeless scene. The salinity of the atmosphere, the comparative mild winters and biting springs, and the frequent gales, have each been credited. No doubt all three contribute more or less to produce this monotonous landscape; but when we consider that one day in every three on an average brings a gale of over thirty-seven miles an hour in velocity, and that even in summer gales of high velocity are experienced, the reason is clear. In June 1890 a gale of seventy-five miles per hour occurred, and in June 1907 one of sixty-three miles per hour, which withered the leaves and checked the growth of the young branches of existing trees. A plantation of trees grows well at Birscarth, in the West Mainland, where it is extremely well sheltered, and again in Kirkwall, where, in the early stages at least, there is good shelter. A farmer told me he had planted a thousand trees several years ago, and that, although most commenced to grow, not one now exists.

At one time trees did grow in Orkney in considerable abundance. Some of our peat bogs are filled with their remains, but generally these are of dwarfed specimens—the most numerous being black birch. The oscillations of climate were, no doubt, considerable long ago, for we find that at one period, and often two, in the history of the peat bogs, dwarf forests grew abundantly, when the air seemed to have been comparatively dry. At a later period we find these all killed out, and laid prone by a vigorous growth of *Sphagnum*—peat-producing moss—which flourishes during a period of excessive humidity. Remnants of these forest trees are still found growing in the sheltered crannies of Hoy, which is the most hilly island of the group, and contains the best sheltered valleys. These are mountain ash, poplar, hazel, black birch, willow, and honeysuckle; but they exist in very attenuated forms.

THE PRESENT-DAY FLORA.

Besides these, there are other plants on the verge of extinction that probably indicate a change of climate. Two ferns—*hart's-tongue* and *holly*—were at one time much more common than now. The most marked I have seen is *Carex paniculata*; it is extremely rare, but certainly native. I know of just one patch of bog containing several tussocks, but all the plants are now so weakly that the seeds hardly ever ripen. This, for a native plant which must at one time have been in fair numbers, is eloquent of change. Then *wood sorrel* is a plant that has probably struggled for existence since the valleys were clothed with brushwood. It is now found only in the beds of one or two streams, where it is sheltered from the "howling blasts of bleak Orcades." *St. John's Wort, Hypericum elodes*, grew in Berridale, Hoy, in 1805; it is now extinct. *Winter green* is now confined to a sheltered valley in the island of Rousay. A good many south country plants find their way to Orkney amongst agricultural seeds, but very few survive beyond a season, and probably not more than one or two have been acclimatised. On the other hand there is a marked difference when seeds are brought from the north. On the banks near the village of Pierowall, Westray, and on the roadside, there is a plant, *Archangelica officinalis*, which has no doubt been brought with fishing smacks from the Faroe Isles, where it is abundant. It is thriving splendidly, and producing strong healthy seed. It is not native in Britain. Our beautiful little *Primula scotica*, more common in Lapland, Norway, and Sweden, seems to be spreading and growing vigorously. It produces seed twice yearly, and specimens growing in my garden seeded thrice last year. If these instances point in any direction, it is to the generalisation that plants from the south of Orkney have difficulty in maintaining life, while those from the north are readily acclimatised.

SOME CURRENT OPINIONS.

Before examining the statistics of the subject, we may be permitted, however futile some may consider the inquiry, to relate the current opinion of Orcadians who are octogenarians. If you were to ask them regarding the weather in their young days, almost without exception they would reply: "The winters were colder; snows and frost were more frequent and more severe; houses were often blocked with snow, so that people had sometimes to be dug out; lochs were so icebound that men, and even horses and carts, were known to cross them on ice; the like is never heard of now; in summer it was so warm that most of the farmers carted their peats from 2 A.M. to 10 A.M. to avoid the excessive warmth of midday." Some of this, but not all, may be explained on the assumptions that young blood registers a higher temperature than old, and that periodic reflections on unusual phenomena tend to their exaggeration.

The year 1826 was unusually dry and the crops were miserable. Captain Oman, Stenness, a reliable observer stated, and others confirmed his statement, that from the sowing of bere, about the 12th of May till the crop was reaped, probably in the first week of August, there was not one shower. The crop was too poor in most cases to cut, and had to be pulled up by the roots.

THE AVAILABLE STATISTICS.

In 1827 the Rev. Charles Clouston, LL.D., Sandwick, commenced that series of weather observations which reflects such credit on his industry and scientific accuracy. For the long period of fifty-eight years, 1827 to 1885, he ungrudgingly gave of his time to this work. At first the only instruments were wet and dry bulb thermometers, but in 1839 a barometer, and in 1841 a rain-gauge, were added. The self-recording maximum and minimum thermometers were added to the equipment in 1856, and in 1862 an anemometer was fixed on the top of the manse, but this was replaced by a large "Robinson" in June 1869, which is still, after slight repairs, in very good working order. The sunshine recorder—a "Campbell Stokes"—was added to the station equipment in February 1880.

The present station at Deerness is recognised as a "Normal Climatological Station": the daily readings are printed in the Returns of the Meteorological Office, and the Monthly Means in this *Journal*.

In dealing with the pressure statistics, we give merely the means for the twenty years 1861 to 1880, for Orkney and Brighton, just to show the relative difference between Orkney and the south of England—

TABLE II.

MEAN PRESSURE, 1861–1880.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.
	in.	in.	in	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Deerness .	29·657	29·781	29·754	29·860	29·916	29·888	29·838	29·827	29·772	29·720	29·744	29·708	29·785
Brighton .	29·981	29·973	29·896	29·947	29·982	29·998	29·979	29·973	29·959	29·910	29·924	29·977	29·958
Difference .	·324	·242	·142	·087	·066	·110	·141	·146	·187	·190	·180	·269	·173

Commenting on these figures, Dr. Buchan said: "This gives a difference in the mean January pressure of these two places of ·324 inch, and, as the distance is 510 geographical miles, the mean barometric gradient is one-tenth of an inch for every 153 miles. This is one of the very steepest mean monthly barometric gradients that occurs at any season anywhere on the globe." So that, according to this great authority, the strongest and most numerous gales are found in Great Britain, and in Great Britain, Orkney, as we shall subsequently show, bears the unenviable distinction of "beating the record." Let us hope that when anemometers are erected in the Faroes and Iceland, across which a still more marked low-pressure region extends, we shall lose this embarrassing distinction and ungrudgingly hand it over to one of our northern neighbours.

TEMPERATURE OBSERVATIONS.

Temperature observations have been tabulated in Orkney for the long period of eighty-one years. The only other place in Scotland with a more extended continuous record is Edinburgh. We have already stated that the general belief is that the Orkney climate is getting colder in summer and milder in winter. Just yesterday we asked James Logie, M.D., Kirkwall, who was born in Orkney in 1820, and commenced the practice of his profession in 1845, if he considered the winters to be milder than in his young days. He replied: "Certainly. We neither have the heavy snowfalls nor the severe frosts we had in my young days. Why, a few years after I settled in Kirkwall, I was called to the Bridge of Waith, and afterwards I rode up the Stenness Loch to Brodgar, and then up the Harray Loch to its head, in Sandwick—a distance of about four miles. Farmers were crossing the lochs frequently with horses and carts." Questioned further regarding summer, he replied: "It is my impression the summers were milder, but I am not so positive of this." Statistics seem to bear this out to a considerable extent, for after every probable error has been eliminated, the net result shows a marked deterioration of summer temperature, and at least considerable variation of the winter.

In Appendix, Table A, will be found the detailed statistics, with means for decennial periods, and below we give comparisons (1) between the means for the first forty years and the last forty, and (2) between the means for the first available decade and the last. Thus we have—

MEAN TEMPERATURES.

	1827 to 1866.	1867 to 1906.	Difference.	1827 to 1836.	1897 to 1906.	Difference.
	°	°	°	°	°	°
January . .	38·5	39·0	+ 0·5	38·3	40·0	+ 1·7
February . .	38·2	38·4	+ 0·2	38·6	37·2	– 1·4
March . .	40·0	39·4	– 0·6	40·8	39·3	– 1·5
April . . .	44·2	42·8	– 1·4	43·5	42·1	– 1·4
May . . .	47·7	46·6	– 1·1	48·5	46·1	– 2·4
June . . .	52·2	51·8	– 0·4	53·9	51·4	– 2·5
July . . .	54·9	54·8	– 0·1	55·8	54·6	– 1·2
August . .	54·8	54·3	– 0·5	55·0	53·8	– 1·2
September . .	52·3	51·9	– 0·4	52·7	52·0	– 0·7
October . .	47·4	46·6	– 0·8	49·0	47·2	– 1·8
November . .	42·4	42·2	– 0·2	43·1	43·3	+ 0·2
December . .	41·0	39·1	– 1·9	41·1	40·3	– 0·8
YEAR . . .	46·1	45·6	– 0·5	46·7	45·6	– 1·1

Thus, comparing the two forty-year periods, the difference in the means is considerable only for the months of April, May, and December, but on comparing the first decennial period with the last, the results are quite unexpected, and the belief of the "man in the street" is this time confirmed. That January should have increased in temperature and February diminished just as much, rather gives prominence to the fact that during the last twenty years most of our prolonged snowstorms have occurred in February. Thus in 1895 snow covered the ground for the month with the exception of one or two days. March and April are each nearly 1½° in defect of the earlier period, but May and June—the two months when so much depends on the proper development of vegetable growth—are 2°·4 and 2°·5 respectively colder. Then October is 1°·8 colder and December nearly 1°, showing that our winters now set in earlier.

The station, as we have said, remained in Dr. Clouston's charge from 1827 to 1885, when the equipment was removed to Swanbister, Orphir, and placed in charge of Mr. Fortescue—now M.D. of Kingussie—where it remained till 1890, when the present observer took charge. The instruments were removed to Deerness in March 1891, and have been there since. Swanbister lies ten miles SE of the Sandwick Manse, and Deerness lies thirteen and a half miles E of Swanbister, or twenty miles ESE of Sandwick Manse. The temperature of Deerness and Swanbister are nearly identical, but Sandwick is considerably milder. We have applied corrections for height and difference of temperature, and brought the readings of Swanbister, Sandwick, and Deerness to correspond, so as to be comparable. The plan we adopted was this—Applied Dr. Buchan's addition of 1° for 270 ft. in height, and brought the readings to the level of Sandwick (72 ft.), then by taking two quinqennial periods for Sandwick and Kirkwall, viz. 81–85, and then 93–97 for Kirkwall and Deerness, the mean difference for each month was found between Sandwick and Deerness. In fact, every probable element of error was eliminated, and the corrected means are thus carefully adjusted. Dr. Buchan once told me that the thermometer-screen at Sandwick was placed against the wall—no doubt the north wall of the manse,—and beneath it was pavement. He considered this position a little unsatisfactory, otherwise observations were made with scrupulous care. But even if anyone were to cavil at the position of the screen, the fact remains that the climate of Orkney in Dr. Clouston's time shows more variation than subsequently. This may possibly be merely an oscillation of climatic conditions, but there is this difficulty, that the statistics of Culloden and Edinburgh, as examined by Dr. Buchan, show no serious decline of temperature. It may be measurable only on the northern boundary of Scotland. The change may be in the temperature of the surrounding sea; it may be in the direction of the wind; it may be owing to colder and more persistent northern currents. We simply do not know. Our statistics are too few, but what we have are thoroughly reliable. No one who knew how deep was Dr. Clouston's interest in Meteorology and other scientific subjects, would doubt the accuracy of his observations.

The other two northern stations at Sumburgh Head and Stornoway should also show this change. Both have been recording stations for a much shorter time than this, but on making a rough calculation of temperature observations at Sumburgh Head the same tendency was apparent.

Let us now compare the mean temperature of a few stations—

Mean Temperature, 1871–1905.

	Sumburgh Head.	Stornoway.	Deerness.	Aberdeen.	Leith.
	°	°	°	°	°
January . .	39·0	38·8	39·0	37·7	39·0
February . .	38·2	39·0	38·5	38·1	39·7
March . .	38·6	39·7	39·3	40·1	41·4
April . . .	41·5	43·2	42·4	43·8	45·3
May . . .	45·2	47·3	46·4	48·3	50·1
June . . .	49·7	52·4	51·3	53·9	55·9
July . . .	52·8	54·8	54·2	57·2	59·1
August . .	53·0	54·6	54·0	56·5	58·7
September . .	50·6	51·5	51·5	53·0	54·9
October . .	45·7	45·8	46·4	46·9	48·2
November . .	42·3	42·3	42·4	41·9	43·1
December . .	39·6	39·3	39·7	38·0	39·4
Year . . .	44·7	45·7	45·4	46·3	47·9

It will be noticed that the mean temperatures of Stornoway and Deerness are almost identical. The mild Atlantic currents in the winter, and the modifying influence of the surrounding ocean during the summer, affect both alike. Shetland has practically the same winter climate, but is rather more than 1° colder in summer. Aberdeen has colder winters and much milder summers.

Leith in January has the same mean temperature as Deerness, but in July is 5° warmer.

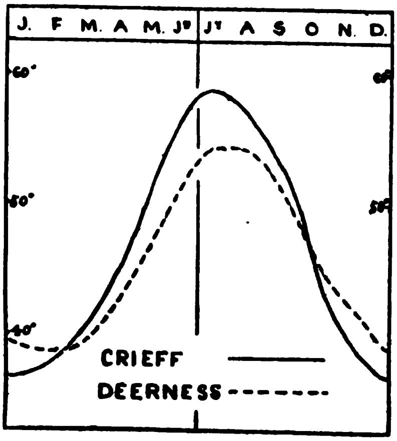


Fig. 2.—Mean Monthly Temperature.

The difference between the annual march of temperature in the Orkneys and in Central Scotland is shown in Fig. 2, where the curves are for Deerness and Crieff.

The lowest mean for any month in Orkney during these eighty-one years is 31°·30, and the highest 61°·4, a monthly range of 30°·1; but individual days show a wider range. The lowest minimum reading of a properly protected thermometer during this time was 8°, and the highest maximum 76°, an extreme range of 68°. We have—

Absolute Extremes from 1860–1908.

	Max.	Date.	Min.	Date.	Diff.
	°		°		°
January	54·5	18th, 1889	7·8	18th, 1881	46·7
February	55·0	19th, 1891	11·9	20th, 1885	43·1
March	57·2	— 1872	12·7	3rd, 1881	44·5
April	62·8	— 1869	23·8	23rd, 1908	39·0
May	65·7	— 1864	29·0	3rd, 1877	36·7
June	74·4	24th, 1876	33·0	8th, 1890	41·4
July	76·0	16th, 1876	35·8	7th, 1887	40·2
August	76·0	— 1890	37·0	4th, 1886	39·0
September	71·0	5th, 1898	32·3	— 1871	38·7
October	63·5	2nd, 1882	28·3	— 1869	35·2
November	58·0	14th, 1881	25·2	— 1861	32·8
December	55·8	— 1865	15·8	— 1860	40·0

Again, considering the highest monthly and annual means, and the lowest for eighty-one years, we have—

Mean Temperatures, 1827–1907.

	Highest Mean.	Year.	Lowest Mean.	Year.	Range.
	°		°		°
January	43·0	1898	32·2	1867	10·8
February	43·1	1878	31·1	1838	12·0
March	45·1	1854	35·6	1888	9·5
April	47·6	1852	39·5	1859	8·1
May	51·4	1833	43·1	1902	8·3
June	58·0	1834	48·7	1902	9·3
July	61·4	1852	51·1	1886	10·3
August	60·6	1852	50·3	1907	10·3
September	56·1	1865	48·3	1836	7·8
October	54·2	1828	42·6	1885	11·6
November	46·6	1857	39·0	1861	7·6
December	46·4	1857	34·2	1886	12·2
Year	48·35	1852	43·84	1892	4·51

1867 is the midway year between 1827, when observations commenced, and 1907. As with the absolute maxima, January and February give highest means on this side of the middle date, and all the others are prior to it. The lowest means, except those for February, April, September, and November, are on this side of the midway date, nearly the same as we found with the minima. The months showing the greatest difference in the means are December and February. The months of least difference are November and September (stated before). The mildest year, 1852, with 48°·35, and the coldest, 1892, with 43·84, show a mean difference of 4°·5.

In working out the corrections to apply to Deerness to reduce its temperature to that of Sandwick, we were surprised to find the former much colder than the latter, the maximum differences occurring in June and July, which were respectively 1°·1 and 1°·3 colder in Deerness than in Sandwick, although the two stations are only twenty miles apart. The following is no doubt the explanation. In a recent trial case it was pretty clearly proved by Captain Bailie, Stromness, and by fishermen, that there is a constant current flowing northwards along the Sandwick coast,—the west coast. On the east coast at Deerness, on the other hand, the tide flows southwards for nine hours, and northwards, but much weaker, for three hours. This strong current from the north extends for at least forty miles to the east. These two currents, the one with its warm Atlantic waters, the other with its cold northern atmosphere, easily account for the difference.

As regards temperature, it remains to point out that a marked feature of the climate is the very moderate daily range. Thus we have—

MEAN DIFFERENCE BETWEEN DAY AND NIGHT.

	Deerness.	Crieff.	Aberdeen.
January . .	7°·2	10°·5	9°·0
July . . .	9°·3	17°·1	13°·0

A comparatively small range is, of course, an invariable feature of an insular climate.

THE RAINFALL.

In Appendix, Table B, are given the full rainfall statistics with decennial means. We subjoin the following table of extremes:—

	Driest Month.	Year.	Wettest Month	Year.
	in.		in.	
January . .	1·37	1864	6·25	1843
February . .	0·74	1858	5·88	1898
March . . .	0·34	1836	5·81	1882
April . . .	0·11	1852	4·33	1859
May . . .	0·38	1859	3·52	1841
June . . .	0·33	1871	3·85	1860
July . . .	1·07	1904	4·90	1891
August . .	0·62	1852	6·74	1861
September . .	0·60	1846	6·60	1869
October . .	1·01	1856	7·82	1845
November . .	1·37	1855	8·24	1866
December . .	1·55	1905	7·75	1854

The wettest year was 1856, with 44·6 inches.

The driest year was 1898, with 27·4 inches.

The heaviest rainfall in twenty-four hours was on 13th July 1894, with 1·7 inches.

The mean annual rainfall (1841–1907) was 36·68 inches.

SUNSHINE STATISTICS.

Sunshine observations were commenced in February 1880. The recorder is a Campbell-Stokes, and the present situation is perfect, there being no obstacle to interfere with the sun's rays at any period of the year. So far as we know, Swanbister and Sandwick had good exposures. The full statistics are given in Appendix, Table C, and the accompanying diagram, Fig. 3, affords a contrast between Aberdeen, one of the sunniest districts of Scotland, and Deerness. The sunniest month in the Orkneys is May, and it is also the driest. This relation is easily understood. June, which, owing to its length of day, should be the sunniest, is not, owing to the frequent fogs which prevent the sunshine reaching us. Then one would hardly expect cold April to be sunnier than July, but the heavier skies and rainfall and fogs of the latter cause it to be so. The sunniest month on record was May 1882, with 258 hours, and the dullest was December 1895, with 6 hours. The sunniest year was 1897, with 1352 hours, and the dullest 1896, with 971 hours; both are strangely found together, which is often Nature's way of paying compensation.

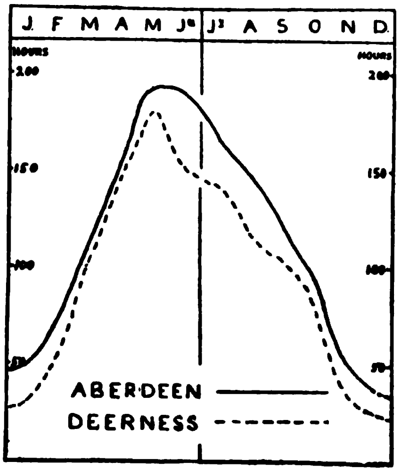


Fig. 3.—Mean Amount of Sunshine.

Below is given a comparison of sunniest and dullest months and years from 1880–1907:—

	Sunniest.		Dullest.	Difference.
	Hours.		Hours.	Hours.
January 1881, '83, '90	44	1885	9	35
February . 1895	88	1903	33·6	54·4
March . . 1904	186	1885	54	132
April . . 1906	200·9	1905	112·1	87·9
May . . 1882	258·0	1906	131·8	126·2
June . . 1888	229	1896	92	137
July . . 1897	208	1891	88	120
August 1898, 1897	170	1882	71	99
September . 1906	174·8	1896	73	101·8
October . . 1891	112	1884, 1892	48	64
November . 1893	63	1888	8	55
December . 1891	39	1895	6	33
YEAR . . 1897	1352	YEAR 1896	971	381

THE GALES OF THE ORKNEYS.

The Orkneys surpass any other district in Great Britain, probably in the world, in the number of gales. The stormiest month is January, followed at short intervals by December and November. The mean monthly number of gales for the seventeen years 1890–1906 is as follows:—

Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.
16·0	11·7	11·2	7·4	4·7	2·2	1·9	2·1	4·0	9·6	12·8	14·8	97·4

We do not have the honour, if honour there be, of having experienced the strongest gale ever reported in Great Britain, but we take second place. A gale was reported from Fleetwood in 1894 with a maximum velocity of 107 miles an hour, and exceeding 100 miles per hour for four hours. Our strongest gale occurred on 17th November 1896, and reached the high velocity of 96 miles per hour, but when taken for half an hour it reached 100. We are now reckoning with the old Robinson factor 3, and all velocities stated in this paper are calculated with that factor.

We have no title to discuss anemometer exposure, yet the annual velocities at different stations seem so inconsistent that some explanation is called for. Valencia, in the south-west of Ireland, is chosen, as it has an exposure like that of Orkney; its annual velocities are higher than those of any other station, Deerness excepted. No doubt the uninterrupted winds of Orkney come sweeping over the Atlantic and North Sea with no obstacles ahead of them to ease their fury. Now take Aberdeen with its anemometer on King's College, no doubt to give it free space above the sea of house-tops. Here the wind strikes against walls and other irregularities, curves and eddies, so that the true velocity can hardly be obtained; but there is little doubt that the wind at Aberdeen is much less than in Orkney, and that its velocity as represented in the accompanying diagram, which is based on official returns, requires adjustment (Fig. 4). That the curves for Orkney and Valencia should be very far from similar is what we might expect, for most of the cylcones that cross near the Orkneys do not spread their sails so far south as Valencia. The direction of cyclones across Great Britain is guided very much by the position of anti-cyclones on Western Europe. When an anti-cyclone is situated over the Baltic, the tendency of cyclones is to cross the

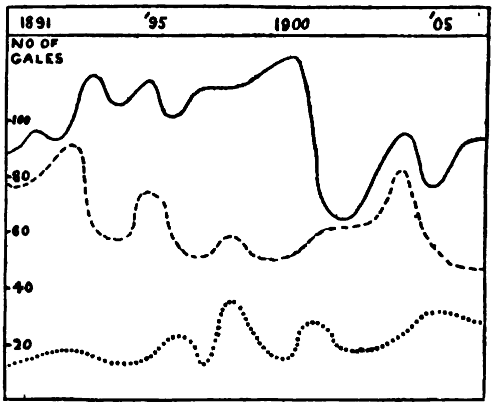


FIG. 4.—Number of gales each year.

Deerness ————————
Valencia - - - - - - - - - - -
Aberdeen....................

south of England; when the anti-cyclone lies over France and the English Channel, the cyclones are driven northwards; with an anti-cyclone over Norway and another over Spain, the cyclones cross north between the two. Thus across Scotland, or north of it, during the year nearly twice as many cyclones cross as over south of England; to be more accurate, the proportion is twelve to seven.

How do all these winds affect the inhabitants? Strangers say the voice is louder, to make oneself heard above the warring elements, and that the rising intonation at the end of the sentence is a last effort to outdo the thunderous furies. This is more marked still in the small islands, where it is impossible to get away from the reverberating sound of ocean's roar. It is also said that the ever-recurring blast has made the footsteps heavier and the countenance more stolid and sombre. A gale every third day would have some such effect.

The following Table gives a list of gales with velocities of over eighty miles an hour experienced in Orkney since an anemometer was erected:—

GALES EXPERIENCED IN ORKNEY DURING THE PERIOD 1869–1908, IN WHICH THE WIND VELOCITY WAS 80 MILES PER HOUR AND UPWARDS.

Date and Hour of Maximum Velocity.	Direction of Wind.	Maximum Velocity.
1869 February 27 4 A.M.	NW by W	81 miles per hour
1877 November 16 3 A.M.	W	83 " "
1882 January 6 5 P.M.	W	82 " "
1884 January 20 9 A.M.	W by S	88 " "
1885 February 21 Midnight	S by E	82 " "
1893 November 17 9 P.M.	N	96 " "
1894 December 22 10 A.M.	N	85 " "
1897 January 25 3 P.M.	NNW	86 " "
1900 February 16 5 A.M.	ESE	89 " "
1906 December 26 3 P.M.	N by W	86 " "
1907 January 28 3 P.M.	W	86 " "
1908 February 22 7 P.M.	W	80 " "

When we commenced this paper we were labouring under the delusion that there were "equinoctial gales," but statistics have proved different to our anticipations. It is commonly supposed that the equinoctials are more pronounced in autumn than in spring. Undoubtedly gales do occur now and then at the autumnal equinox, but the Orkney statistics show conclusively that gales do not occur more frequently in the week around the 21st September than in the first week of October, and entirely dispose of the belief that is almost universal, at least in these islands, that there are equinoctial gales.

We give below the mean direction of wind for most of the period under consideration. It will there be noticed that there is a considerable increase in the N and NE winds, a decrease in the SE, with a favourable increase in the S. There is a very decided reduction in the W wind. We have heard much about the prevalence of the SW winds as they affect our

Atlantic currents, but the S and SE together are much more frequent than the SW and W, so that there is need to revise some of our current meteorological phraseology.

MEAN DIRECTION OF WIND.

YEARS.	N	NE	E	SE	S	SW	W	NW	Calm
1827–1841	72	34	54	144	96	80	126	90	34
1841–1859	72	36	78	116	96	74	144	78	50
1876–1890	73	42	49	106	102	88	115	95	61
1898–1904	84	44	69	104	123	99	106	88	32

In conclusion, the climate of Orkney is very much that of the east coast of Scotland. Its extremes of temperature are not so great. Its rainfall is slightly higher. The growth of vegetation is often greatly retarded in spring, considerably more so than on the mainland of Scotland. During April, May, and June, till midsummer day, spells of cold weather with N wind set in and prevent the progress natural to the season. Then gales, as those of 1890 and 1907, wither the growing grain and check vegetable growth for at least a fortnight. After that rapid progress takes place, and heavy crops are often produced. Harvests are generally a fortnight later than in Aberdeen, but seedtime is also much later. Bere, which is much grown on land where seaweed is available, has been often sown in the third week of May and cut in the second week of August, thus growing and ripening in eleven weeks. It has been known to do this in ten weeks, but that is unusual.

August 1908.

[APPENDIX—TABLE A.

APPENDIX.

TABLE A.—TEMPERATURE RECORDS.

(Sandwick, 1827–1885; Swanbister, 1885–1891; Deerness, 1891–1906.)

YEAR.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.
1827	35·1	35·1	38·6	43·8	49·2	53·4	55·6	55·0	54·3	51·0	43·1	43·2	46·5
1828	40·2	38·8	41·5	43·6	45·3	56·0	58·3	57·3	55·4	54·2	45·5	43·2	48·3
1829	36·1	39·5	40·7	41·5	50·0	53·4	57·1	54·4	50·2	45·6	41·4	39·5	45·8
1830	38·0	36·7	41·8	44·8	50·8	51·7	56·1	53·1	53·5	49·4	42·8	36·3	46·2
1831	36·7	37·7	42·7	44·9	48·7	56·1	57·9	58·9	54·7	51·7	40·5	44·1	47·9
1832	41·5	42·2	42·2	46·2	47·3	54·7	54·3	56·1	52·6	49·4	45·4	41·4	47·8
1833	37·1	38·4	38·7	43·2	51·4	51·6	54·7	52·4	52·3	49·2	41·6	39·3	45·8
1834	38·9	40·2	41·1	43·1	48·8	58·0	58·0	56·9	52·9	48·1	44·0	45·2	47·9
1835	39·8	39·5	41·2	42·8	46·0	51·8	53·6	54·8	53·0	45·7	45·7	40·4	46·1
1836	39·1	37·5	39·6	41·4	47·8	52·0	52·5	51·8	48·4	45·9	40·9	38·6	44·6
1837	38·8	39·3	36·5	39·1	45·2	51·1	50·6	53·8	51·6	49·4	41·6	42·4	44·9
1838	33·6	31·8	38·6	39·2	44·8	48·2	53·9	52·8	50·3	45·8	39·7	41·8	43·3
1839	36·0	37·6	36·3	42·1	44·9	51·0	55·6	53·1	52·8	47·6	43·2	40·4	45·1
1840	38·8	38·0	41·4	45·9	44·8	50·2	52·4	55·7	49·7	46·4	42·2	39·8	45·4
1841	34·8	38·4	44·4	43·4	49·5	50·8	51·6	53·2	52·5	43·5	39·7	39·6	45·1
1842	37·7	40·4	41·1	45·3	50·8	53·8	54·4	56·7	52·9	46·5	40·2	45·0	47·0
1843	39·6	38·6	39·0	42·7	46·1	50·0	54·3	56·5	54·8	48·5	41·9	45·5	45·6
1844	40·1	34·2	39·5	46·3	47·9	50·5	52·9	53·5	51·0	46·4	43·6	38·2	45·3
1845	39·5	36·5	37·3	45·2	47·1	53·2	53·3	53·2	50·6	48·0	44·0	38·3	45·5
1846	42·4	43·1	40·2	42·6	48·6	57·3	56·5	58·8	55·4	49·4	46·0	38·2	48·2
1847	39·6	37·9	41·8	42·3	48·2	52·7	57·1	55·5	48·7	48·2	45·3	40·3	46·5
1848	38·4	38·4	41·2	42·2	50·5	52·5	53·8	53·6	52·3	46·6	41·7	41·4	46·0
1849	39·0	41·2	42·0	41·9	48·7	49·4	54·6	53·8	52·8	46·0	43·0	40·8	46·1
1850	37·1	41·9	41·4	44·3	46·9	53·6	56·4	54·0	51·3	45·6	42·6	42·7	46·5
1851	41·7	40·6	40·9	43·5	47·4	51·9	52·5	53·8	51·9	49·1	40·8	44·4	46·5
1852	40·8	39·9	42·0	47·6	50·5	55·8	61·4	60·6	53·5	46·9	41·5	40·7	48·4
1853	38·6	33·7	38·2	44·5	49·1	55·2	58·2	56·0	53·3	48·7	44·9	39·0	46·6
1854	36·5	39·2	45·1	44·7	48·4	52·9	55·3	55·1	55·1	46·4	42·1	39·1	46·6
1855	38·2	31·6	36·6	43·2	48·8	52·2	59·2	56·1	52·7	45·7	43·5	39·4	45·2
1856	38·0	40·8	40·4	44·6	46·8	51·5	54·8	53·2	50·8	48·8	40·2	39·4	45·8
1857	37·6	40·5	39·1	41·6	47·9	53·9	54·8	56·7	55·3	49·3	46·6	46·4	47·5
1858	41·4	38·3	38·6	41·9	47·3	55·0	53·4	56·6	53·7	44·4	41·2	42·5	46·2
1859	40·5	40·2	40·2	39·5	49·5	52·9	55·0	55·2	51·7	46·1	41·1	35·3	45·6
1860	37·0	35·8	38·4	41·0	46·9	50·3	53·4	52·2	49·6	44·9	40·3	36·2	43·8
1861	38·8	39·8	40·3	43·2	45·3	53·9	54·7	54·8	51·9	49·6	39·0	41·3	46·0
1862	39·6	40·2	35·8	41·8	48·8	50·3	51·5	53·6	52·6	47·3	40·5	43·6	45·5
1863	40·5	41·5	41·2	42·9	45·6	52·6	52·6	53·2	49·9	47·3	43·1	41·5	46·0
1864	38·5	34·6	37·0	44·5	46·6	51·2	54·2	52·6	52·0	45·9	43·4	41·7	45·2
1865	36·6	36·6	37·6	44·0	48·7	52·6	55·2	54·9	56·1	45·7	42·7	44·3	46·3
1866	40·3	36·9	38·4	42·3	46·1	54·0	53·5	53·3	50·2	49·7	42·1	41·5	45·7
1867	32·2	40·8	36·6	43·0	44·8	50·8	51·8	55·5	52·7	47·6	45·0	41·6	45·2
1868	38·6	41·3	42·0	44·5	50·1	53·1	57·0	55·9	51·7	46·1	40·0	41·4	46·8
1869	41·6	41·0	37·8	44·3	43·7	49·9	55·6	53·6	51·6	46·2	41·3	36·2	45·3
1870	38·9	36·4	39·0	44·8	47·9	51·6	55·2	55·8	52·9	46·8	41·3	35·2	45·5
1871	36·5	41·2	42·3	40·0	47·0	51·4	56·8	56·9	51·4	47·8	40·2	40·2	46·0
1872	40·2	41·1	41·3	44·1	46·0	53·7	56·6	54·3	50·5	46·6	41·8	39·7	46·3
1873	40·0	37·2	39·6	43·4	45·2	54·2	57·3	55·0	50·6	45·1	42·7	43·0	46·1
1874	41·8	41·0	42·6	44·8	46·4	51·6	56·7	53·5	52·4	47·6	42·2	35·0	46·3
1875	39·7	37·5	40·4	44·4	46·4*	52·2*	54·7	55·9	52·7	46·9	39·9	39·1*	45·8
1876	41·4	36·2	37·6	42·4	47·1	53·3	54·4	55·4	50·4	49·0	42·3	39·6	45·8
1877	37·7	38·4	39·1*	42·8*	44·3	51·6	54·5	52·2	49·9	46·4	43·8	41·0	45·1
1878	40·0	43·1	39·2	44·3	48·5	53·0	55·1	56·9	53·4	49·2	39·4	34·8	46·4
1879	35·3	35·8	36·9	40·1	44·5	50·8	53·2	54·4	51·6	47·0	42·7	40·2	44·4
1880	41·1	41·8	41·7	44·4	47·2	52·6	54·7	58·6	55·3	43·4	40·4	37·8	46·6
1881	33·7	35·5	36·3	41·0	47·8	50·1	54·1	51·9	52·2	46·2	45·2	41·0	44·6
1882	42·7	42·2	41·5	42·0	48·4	51·5	56·8	56·2	51·8	50·0	40·1	36·2	46·6
1883	39·9	40·6	36·6	44·8	46·4	51·1	55·0	54·2	52·1	47·2	42·1	41·8	46·0
1884	41·6	40·2	41·5	43·2	46·4	51·8	55·2	57·2	53·8	48·0	42·6	40·0	46·8
1885	38·4	37·9	40·1	43·2	45·0	50·0	54·7	51·6	50·4	42·6	42·4	40·6	44·7
1886	35·6	36·8	38·4	42·0	45·3	48·9	51·1	52·4	49·9	48·1	43·9	34·2	43·9

* Interpolated.

TABLE A.—*continued.*

YEAR.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.
1887	39·7	40·6	40·7*	40·8	46·3	52·2	54·3	52·4	51·8	43·8	40·4	36·6	44·9
1888	39·7	35·2	35·6	41·4	44·2	48·9*	50·1*	50·6	51·3*	46·6*	41·6	41·2	43·9
1889	42·0	36·4	39·6	42·5	50·7	55·4	52·4	55·0	49·9	47·4	44·6	40·4	46·3
1890	40·7	39·2	40·0	42·9	50·0	51·8	52·8	54·2*	54·2	47·6	43·1	39·2	46·3
1891	38·1	43·0	38·3	41·2	44·4	49·4	53·0	52·2	52·4	48·7	43·7	40·4	45·4
1892	37·6	37·3	37·0	41·0	45·8	49·1	51·7	52·3	49·2	44·2	44·4	37·6	43·9
1893	37·7	37·8	41·2	44·4	48·2	52·3	53·9	55·2	50·9	47·0	39·6	41·4	45 8
1894	34·9	33·8	39·1	42·2	47·9	50·9	53·2	55·2	54·2	43·4	43·7	39·7	44·8
1895	38·2	38·0	41·5	44 8	45·1	51·4	55·4	53·7	50·6	46·6	46·1	41·6	46·1
1896	40·1	41·8	40·1	44·2	49·4	50·7	53·6	52·6	50·9	43·3	43·8	41·1	46·0
1897	36·7	38·5	39·6	41·0	44·1	49·9	53·9	55·4	50·0	48·5	44·7	41·6	45·4
1898	43·3	37·8	39·2	43 4	44·8	50·1	52·3	53·7	53·2	49 9	43·2	41·9	46·1
1899	38·5	40·6	38·7	40·7	45·3	52·2	55·5	54·8	50·2	47·7	47·0	40·2	45·9
1900	39·9	35·2	37·5	42·2	45·4	49·8	54·1	53·9	52·2	45·8	44·6	42·9	45·3
1901	40·0	36·9	38·6	42·6	47·8	50·6	55·3	53·7	53·4	47·1	42·4	38·8	45·6
1902	38·7	35·9	40·2	43·0	43·4	48·2	49·8	50·2	50·4	47·4	46·2	40·8	44·5
1903	39 3	40·8	40·5	39·6	45·9	49·2	51·3	51·9	51·1	47·0	42·1	40·8	45·0
1904	40·4	37·4	38·9	43·0	45·9	50·6	53·4	53·8	52·3	47·8	42·0	40·7	45·5
1905	40·6	38·8	41·5	39·7	46·0	51·7	55·1	53·7	51·8	43·5	41·6	42·7	45·5
1906	40·0	36·6	37·6	41·3	44·0	50·6	52·0	53·3	52·9	47·5	45·0	38·6	44·9

* Interpolated.

MEAN TEMPERATURE FOR DECENNIAL PERIODS.

YEAR.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.
1827–36	38·3	38·6	40·8	43·5	48·5	53·9	55·8	55·1	52·7	49·0	43·1	41·1	46·7
1837–46	38·1	37·2	39·4	43·2	46 9	51·6	53·5	54·7	52·2	46·6	42·2	40·9	45·6
1847–56	38·7	38·5	41·0	43·9	48 0	52·7	56·3	55·2	52·2	47·2	42·5	40·7	46·4
1857–66	39·1	38·4	38·7	42 3	47·3	52·7	53·8	54·3	52·3	47·0	42·0	41·5	45·7
1867–76	39·1	39·4	39·9	43·6	46·4	52·2	55·6	55·2	51·7	47·0	41·7	39·1	45·9
1877–86	38·6	39 2	39·1	42·8	46·4	51·1	54·4	54·5	52·0	46·8	42·2	38·7	45·5
1887–96	38·9	38·3	39·3	42·5	47·2	51·2	53·0	53·3	51·5	45·9	43·1	39·9	45 3†
1897–06	39·7	37·7	39·2	41·6	45·3	50·3	53·3	53·4	51·7	47·3	43·9	40·9	45 3†
1887–96	39·2	37·8	39·4	43·0	48·0	52 3	54·3	53·7	51·9	45 8	42·5	39·3	45·6‡
1897–06	40·0	37 2	39·3	42 1	46·1	51 4	54·6	53·8	52·0	47·2	43·3	40·3	45 6‡

† As read. ‡ Reduced to Sandwick Station.

TABLE B.—RAINFALL OF ORKNEY. (In inches.)

(Sandwick, 1841-1885; Swanbister, 1885-1891; Deerness, 1891-1907.)

YEAR.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.
1841	5·00	1·93	2·54	1·97	3·52	1·64	3·16	3·81	3·09	4·88	3·51	5·43	39·98
1842	3·28	2·20	3·98	0·51	0·98	2·34	1·88	4·69	3·13	5·68	3·88	4·44	36·99
1843	6·25	1·32	2·46	4·05	2·31	1·09	2·92	1·84	2·00	6·38	4·17	3·70	38·44
1844	4·42	3·22	3·68	1·28	1·60	2·32	1·17	2·86	1·99	4·52	3·25	1·77	32·08
1845	2·97	2·56	3·17	0·94	1·02	2·40	1·69	4·13	2·82	7·82	4·01	7·41	40·94
1846	4·38	3·34	3·47	1·95	1·88	1·60	2·13	2·91	0·60	3·55	3·27	3·97	33·05
1847	1·51	3·48	1·56	3·82	2·28	2·72	2·56	3·20	6·05	4·70	4·15	5·24	40·77
1848	2·80	5·57	2·79	1·15	1·78	2·67	3·87	2·04	1·56	3·97	6·23	3·87	37·80
1849	7·54	4·92	2·71	1·91	0·78	2·33	3·72	3·33	1·76	2·85	4·45	4·22	40·52
1850	3·81	4·98	2·43	2·20	1·84	1·99	1·16	4·61	4·05	7·32	6·81	3·11	44·31
1851	4·29	3·50	2·36	1·52	1·77	2·86	3·32	2·28	0·91	3·96	4·11	2·59	33·42
1852	5·28	3·81	0·78	0·11	1·42	3·05	2·58	0·62	2·64	4·12	5·18	5·04	34·58
1853	5·12	2·50	1·79	3·30	0·71	2·13	1·57	2·83	3·54	5·94	2·62	1·67	33·72
1854	4·72	4·10	1·65	1·42	1·61	1·85	2·52	2·40	4·18	5·21	4·82	7·75	42·23
1855	3·26	1·32	3·58	2·89	1·38	2·64	2·97	3·98	1·74	5·28	1·37	4·64	35·05
1856	2·33	2·42	0·34	0·34	0·89	2·36	3·36	1·40	3·18	1·01	4·61	5·17	27·41
1857	5·45	2·96	4·12	1·37	0·89	0·56	2·77	2·75	2·75	2·81	1·93	3·55	31·91
1858	3·78	0·74	2·71	0·86	2·43	2·24	4·05	2·64	2·80	5·89	2·83	3·40	34·37
1859	5·46	4·20	5·41	4·33	0·38	2·41	2·81	2·27	2·85	6·26	2·66	5·39	44·43
1860	3·00	1·81	3·40	1·28	2·28	3·85	1·99	4·88	4·65	5·49	3·51	5·02	41·11
1861	2·12	1·43	4·72	1·02	2·01	0·78	3·40	6·74	2·97	6·01	7·29	2·68	41·17
1862	4·02	1·42	1·85	2·27	2·86	2·33	2·52	2·25	3·01	5·69	2·38	3·78	34·38
1863	5·16	3·06	2·60	3·24	2·61	1·09	1·21	3·09	5·88	3·84	3·08	5·36	39·72
1864	1·37	3·78	2·69	1·23	1·88	1·90	1·68	2·60	3·69	3·66	4·69	4·16	33·28
1865	4·08	3·40	4·74	1·47	1·90	1·42	1·55	2·65	2·28	4·85	3·07	2·79	34·20
1866	4·33	5·63	3·08	1·21	2·15	1·87	1·64	3·24	2·65	2·76	3·24	4·76	41·56
1867	4·06	4·08	2·08	4·20	1·11	1·79	1·56	1·72	5·88	6·66	2·98	3·87	39·39
1868	4·50	5·81	4·27	3·31	1·51	2·80	1·35	5·32	1·41	5·34	2·66	5·15	43·43
1869	3·83	4·04	2·85	3·75	1·03	1·97	3·20	2·37	6·60	3·38	6·70	3·76	43·43
1870	2·31	2·92	1·25	2·77	1·67	1·70	1·33	1·11	3·30	3·17	3·67	5·52	30·72
1871	1·65	4·40	2·30	1·74	1·12	0·33	2·85	2·93	2·85	4·04	3·84	3·98	32·03
1872	4·44	2·16	2·04	2·40	1·69	3·52	2·57	3·40	3·50	4·72	5·02	4·41	39·87
1873	3·52	1·54	2·20	1·44	1·71	1·82	2·39	4·06	3·51	6·56	4·69	4·29	37·73
1874	4·98	1·89	3·46	2·10	1·51	1·67	2·75	5·00	4·86	4·10	4·00	3·44	39·26
1875	5·02	1·99	0·83	2·61	1·51	1·45	2·94	2·68	2·86	3·76	4·05	3·36	33·06
1876	2·92	3·58	4·28	2·23	1·32	1·45	3·15	2·56	3·18	3·80	4·70	5·95	39·12
1877	3·43	4·83	2·81	1·44	2·73	3·38	2·85	2·50	1·63	4·57	7·00	4·10	40·77
1878	3·76	1·98	4·03	0·24	2·91	1·25	2·52	1·40	5·90	4·87	3·61	5·70	38·17
1879	2·36	1·25	3·23	1·70	2·50	1·38	3·17	3·39	3·29	3·40	3·62	3·19	32·48
1880	2·40	3·91	2·91	1·72	1·66	2·30	3·55	1·00	4·16	4·28	4·28	4·54	36·71
1881	2·57	5·30	3·43	1·53	1·56	2·51	4·47	3·42	0·77	3·44	3·04	4·92	36·96
1882	3·15	3·20	5·81	1·90	1·37	3·43	2·44	2·59	3·04	3·10	4·02	4·72	38·77
1883	3·09	3·46	2·56	1·75	2·94	0·98	1·85	3·73	3·67	4·03	4·94	4·72	37·72
1884	5·33	1·34	3·63	0·76	2·08	1·59	2·54	2·81	1·69	5·93	4·88	4·31	36·39
1885	2·14	3·63	2·63	1·43	1·70	2·50	1·52	1·68	3·78	4·68	2·07	4·59	32·35
1886	4·79	1·84	1·52	1·86	1·97	2·21	3·12	2·81	1·82	2·33	3·86	6·14	33·27
1887	3·46	2·06	1·00	2·07	1·87	1·56	3·17	3·00	3·44	4·52	3·82	4·39	34·36
1888	2·78	3·51	3·29	2·02	2·92	1·13	1·76	2·64	1·70	5·03	5·68	2·94	35·40
1889	3·40	4·54	3·96	2·38	0·52	0·66	1·55	5·19	3·35	3·20	2·63	4·71	36·09
1890	4·00	1·57	4·16	1·26	2·02	3·17	3·32	2·93	3·86	5·58	7·14	2·08	41·04
1891	2·95	2·02	4·54	0·83	2·27	1·42	4·90	4·67	3·87	1·88	2·43	3·14	34·22
1892	4·77	3·24	1·45	2·02	3·12	2·12	2·67	3·25	3·29	4·72	3·91	2·38	36·94
1893	3·60	2·66	2·50	1·06	1·45	0·41	3·04	1·87	5·24	7·07	6·11	4·21	39·22
1894	4·01	3·72	2·22	0·48	2·37	1·67	4·71	3·90	0·74	2·88	1·41	2·99	31·10
1895	3·38	1·04	2·03	2·93	0·91	2·81	2·48	2·76	2·77	4·67	2·88	6·06	34·72
1896	3·31	2·49	3·18	1·66	2·01	3·19	3·12	3·01	6·23	5·80	2·67	5·19	41·86
1897	2·23	1·60	3·44	1·60	1·72	0·86	1·90	1·97	4·65	3·06	3·42	3·75	30·20
1898	3·64	5·88	3·59	2·68	3·35	1·21	2·68	3·04	4·11	3·51	4·42	6·45	44·56
1899	4·33	1·49	3·41	2·56	2·89	2·15	2·49	1·44	4·59	3·46	3·95	3·42	36·18
1900	3·50	2·47	1·94	2·15	1·29	1·36	3·30	1·98	2·99	4·77	3·87	4·37	33·94
1901	3·18	2·17	2·01	2·66	1·42	3·25	1·94	3·55	1·83	4·55	3·55	5·55	35·66
1902	3·27	2·22	3·05	1·51	1·89	1·51	2·48	2·67	2·39	2·74	1·54	3·79	29·06
1903	3·29	5·02	2·17	3·13	1·29	1·29	3·89	4·27	2·47	5·12	4·60	2·71	39·25
1904	3·43	2·62	2·15	4·28	1·64	1·71	1·07	2·84	2·24	3·52	3·23	4·46	33·19
1905	3·73	4·31	2·80	2·59	1·57	1·43	3·41	2·73	2·92	5·75	4·27	1·55	37·06
1906	3·24	3·59	2·18	2·18	3·02	1·02	2·45	3·05	3·10	2·85	4·82	4·86	36·36
1907	4·22	3·50	2·65	1·78	1·16	3·69	1·16	4·14	1·24	3·18	2·44	3·01	32·17

TABLE B. (*continued.*)—RAINFALL IN DECENNIAL PERIODS.

YEAR.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.
1841–50	4·20	3·35	2·88	1·93	1·80	2·11	2·38	3·30	2·70	5·17	4·37	4·32	38·49
1851–60	4·26	2·74	2·61	1·74	1·38	2·40	2·80	2 60	2 92	4·60	3·36	4·42	35·82
1861–70	3·58	3·56	3·01	2·45	1·87	1·76	1·94	3·11	3·67	4·53	4·47	4·18	38·13
1871–80	3·45	2·65	2·81	1·76	1·87	1·86	2·87	2·89	3·57	4·41	4·48	4·30	36·92
1881–90	3·47	3·05	3·20	1·70	1·90	1·97	2·57	3·03	2·71	4·18	4·11	4·35	36·24
1891–00	3·57	2·66	2·83	1·80	2·14	1·72	3·13	2·79	3·80	4·18	3·51	4·20	36·29
1901–07	3·49	3·35	2·43	2·60	1·71	2·00	2·34	3·32	2·31	3·96	3·50	3·70	34·68
Mean	3·72	3·05	2·82	1·99	1·81	1·97	2·57	3·01	3·09	4·43	3 97	4·21	36·65

TABLE C.—SUNSHINE OF ORKNEY.

YEAR.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	YEAR.
	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.
1880	...	53	142	162	208	238	136	154	128	98	43	13	...
1881	44	35	59	123	211	149	143	138	78	71	31	27	1109
1882	25	46	80	134	258	144	175	71	103	78	54	20	1188
1883	44	54	58	137	174	195	170	96	96	91	51	17	1183
1884	13	57	103	154	152	138	168	158	88	48	34	8	1121
1885	9	45	54	157	161	174	155	91	110	59	26	14	1055
1886	27	63	108	166	162	145	141	129	117	63	49	28	1198
1887	39	54	115	130	164	168	151	103	83	55	17	20	1099
1888	35	78	78	126	161	229	126	123	111	59	8	25	1154
1889	29	44	76	113	170	197	161	142	92	74	41	28	1167
1890	44	51	96	180	194	150	150	127	87	56	34	12	1181
1891	24	73	120	196	192	151	88	97	98	112	40	39	1230
1892	22	36	126	211	174	171	111	118	123	48	36	32	1208
1893	30	64	104	160	158	159	121	134	112	63	31	13	1149
1894	26	41	162	141	233	204	170	105	95	66	63	22	1328
1895	37	88	117	134	191	207	126	131	124	96	44	6	1301
1896	21	42	112	115	154	92	133	104	73	72	31	22	971
1897	39	52	73	180	186	167	208	170	180	96	22	29	1352
1898	34	49	130	121	201	124	138	170	107	99	53	12	1238
1899	37	77	104	164	208	178	150	111	115	78	15	15	1252
1900	29·7	64·8	91·8	115·5	140·5	86·1	138·8	156·2	98·9	85·1	27·8	25·0	1060
1901	26·5	57·5	91·5	190·7	193·6	165·1	122·9	130·0	112·6	92 7	46·0	23·7	1252·8
1902	35·9	39·7	98·0	169·4	188·4	157·1	102·0	107·5	79·9	100·6	33·8	13·6	1125·9
1903	25·3	33·6	96·6	132·5	143·7	140·8	128·8	130·9	130·0	83·3	43·0	27·8	1116·3
1904	24·7	47·7	86·0	144·3	189·6	177·9	108·2	112·0	130 1	80·6	46·4	19·1	1166·6
1905	19·8	51·4	65·4	112 1	151·6	193·9	159·4	128·3	133·7	62 2	40·1	19·6	1137·5
1906	40 2	83·9	97·4	200·9	131·8	145·2	167·1	123·3	174·8	78·5	27·6	15·5	1286·2
1907	25·9	76·7	129·7	152·6	177·7	136·9	102·8	84·1	138·7	72·2	41·1	28·0	1166·4
1881–07	29·7	55·5	101·1	154·1	178·5	160·9	141·3	121·8	108·8	75·5	36·5	20·8	1177 6

5.

METEOROLOGICAL NOTES.

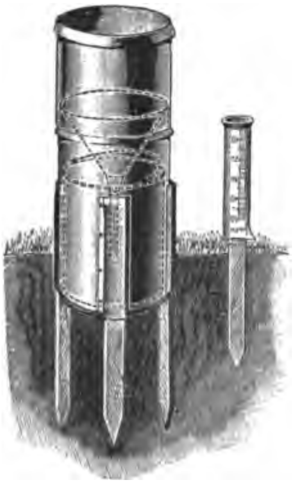
The Standard Form of Rain-Gauge.—Mr. A. Watt contributes to the last issue of the *Transactions of the Highland and Agricultural Society* (5th Series, vol. xx.; 1908) an article on "Rainfall Observations in Scotland," from which we quote the following:—

"A rain-gauge consists essentially of a hollow vessel of regular shape, preferably cylindrical in form. Some mountain gauges which can be visited only at intervals consist merely of such a cylinder; but gradually a standard form of gauge has been evolved, and this standard form is shown in the accompanying figure.

"During travels over Scotland, which have left many pleasant memories of visits to willing helpers, often in remote districts, the writer has seen many gauges that are far from conforming to the standard type. Where expense is not a serious consideration, old gauges should, as opportunity offers, be replaced by the approved official pattern. Certainly it cannot be too strongly urged that new observers should purchase none but the standard type of gauge, even though assured by the instrument makers that another is 'just as good.' No other is as good.

"The illustration of the 'Snowdon' gauge given above explains itself. The deep rim is of fundamental importance; it ensures the retention of snow, and snow when melted has a definite rainfall equivalent. Then, again, with a gauge of the shallow-rim type there is probably a quite appreciable failure to catch the full amount of rain in windy weather. But with such a gauge as the 'Snowdon' a rainfall record of the highest scientific accuracy may be maintained—and very simply.

"To measure the rainfall the upper part of the gauge is removed, when the inner can may be withdrawn and the rain measured off in the graduated glass. The standard gauge is five inches in diameter, and the measuring-glass of such a diameter that the capacity of the graduated portion of the glass corresponds to a fall of half an inch of rain. A gauge made of copper is to be recommended, but one of galvanised iron or painted zinc is sufficiently good, though less durable."*


Standard Rain-Gauge.

The Secretary of the Scottish Meteorological Society is at all times glad to advise as to the purchase and erection of gauges. A useful little Rainfall Register, with space for a daily record extending over two years, and with hints to observers, may be had from the Society's Office, price 7d., post free.

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* A standard 5-inch copper gauge should be procurable for rather less than £1, one of zinc or galvanised iron for considerably less.

Mirage in the Firth of Forth.—The mirage of the Arctic regions, in which an inverted image of some object appears upon the sky, probably occurs in the British Isles oftener than is commonly supposed, and there are some classic examples on record in various scientific publications. Such a phenomenon can occur only in very calm weather, and, in our Islands, probably only during the summer months or during hot weather in late spring or early autumn. During the last ten days of June (1908) atmospheric conditions in the south of Scotland were favourable to optical illusions, and two interesting examples of mirage over the Firth of Forth were communicated to the *Scotsman.* A correspondent, "S. W.," writing from North Berwick on 22nd June, said—

> "Last evening, between 6.30 and 7.30, I observed a well-marked "mirage" overhanging some groups of trees near the eastward extremity of the Fife shore line. The appearance kept changing from minute to minute—now the trees appeared suspended in the air, reversed, then the appearance changed to that of a ruined castle, then of a cathedral with tall central tower, then a group of buildings with a gigantic chimney stalk vomiting smoke. Sometimes there was apparently a bay with several islands and a headland beyond, with a fragment of a pier or viaduct projecting seaward. The supports of the seeming pier were, I imagine, the stems of trees immensely prolonged upwards by the mirage, the reflection above meeting the real tree stems below.
>
> "I watched the mirage for about an hour from the top of the East Links here. There was a sort of double horizon extending all along the sea-line. This was especially marked to the east of the Bass Rock."

Later, Mr. Walter Oliphant, writing from Dunbar on 28th June, said—

> "I have read with interest your correspondent's letter on this subject. The phenomenon was seen here to-day over the sea in a north-west direction. The Isle of May was duplicated, the upper one being inverted, and the two joined having the appearance of an anvil; while later the upper one melted away, looking like a column of smoke coming from a volcano. About 10 P.M. two lights were seen, the one above the other, and shortly after the phenomenon vanished."

The Daylight Saving Bill and Meteorology.—The proposals of the Daylight Saving Bill touch the meteorological observers of this country very closely, and it is therefore well that the Director of the Meteorological Office was asked to give evidence before the Select Committee of the House of Commons whose report was recently issued. Dr. Shaw had previously, in a letter to the *Times* (6th June 1908), stated very strongly various arguments against the adoption of the Bill, and in his evidence emphasised eight points of view from which the proposals of the promoters seemed undesirable. We quote from the official Report—

> "The first [of these eight points]," said Dr. Shaw, "is that the proposed alteration of the denomination of the hours of standard time is a violation of fundamental scientific principles, because for purposes of measurement, time, like any other physical quantity, is conceived of as a continuous quantity, and all numerical values must be referred to the same epoch or datum point. The occasional variation of the epoch renders any system of time measurement based thereon unsuitable for scientific purposes. With such a system a single denomination of the time of occurrence of an event may have two meanings, which is not permissible in scientific work. The second point is that the use of Greenwich standard time for Great Britain is in fact part of the basis of the International Prime Meridian Conference,

and as such is a matter of interest to the whole world. The letters a.m. and p.m. refer to mean noon at Greenwich. For any question as to its scientific importance we have to depend upon the corporate opinion of representative astronomers conversant with the daily requirements of various countries as regards the specification of a time standard. My third point is that the science of meteorology depends largely, if not exclusively, upon the comparison of measurements among which time is one of great importance. A discontinuous system of measurement is therefore inadmissible, and meteorological observers, together with astronomers, would, in case the proposal were carried out, have to use a dual time system, one for the ordinary affairs of life, and the other for meteorological observations. Among meteorological observers are to be found persons belonging to all classes of the community. They are not, as in the case of astronomers, confined to a special class working in observatories and trained in the intricacies of time measurement. The use of a dual time system, except for trained experts, is not possible, and for so widely spread a system as that covered by meteorological work would inevitably lead to great confusion. Under my fourth head I submit a copy of the *Observers' Hand Book* recently issued by the Meteorological Office for the instruction of observers, and I call attention particularly to certain pages which give details with regard to the measurement of time and its application to meteorological work. The pages are—section 1, pages 7 and 8, which give the times of observation; section 3, pages 11 to 14, which give the specification of standard time and various matters about time; pages 55 and 56, in which, on page 55, there is a statement that for the casual observations the time observation must be noted, and page 56 gives an account of the permanent register and the way in which the items have to be referred to time. Part II., page 59, gives an account of the method of measuring by means of self-recording instruments, which would be vitally affected by any change in the denomination of time used by the observers; and finally, there is a general table, which represents a month's meteorological observations, at pages 128 and 129, which show how all meteorological observations are entered for definite and precise times and selected hours. All the references to time in that book would be ambiguous unless standard time is adhered to. Any ambiguity in the interpretation of the denomination of the hours would affect not only the observers and the scientific workers, but the numerous applications of the observations to practical life. The fifth point is: That all meteorological data have reference, direct or indirect, to the effect of the sun, and are therefore concerned with sunrise and sunset. Separate tables of the time of sunrise and sunset adapted to standard time and modified time would be required for meteorological work, as for all other operations depending upon sunrise and sunset. The sixth point is: That for the work of the Meteorological Office the proposal presents special difficulties. The Office receives about 50,000 telegrams a year (some of them, however, arrive as collective telegrams at the Office), partly from stations in this country, and partly from stations abroad. Many of the latter are in exchange for telegrams sent abroad, and to these must be added telegrams originating from the Office, which, at a rough estimate, reach a total of 20,000, so that the daily work of the Office depends upon the punctuality of 70,000 telegrams a year. The telegrams sent out from the Office include storm warnings and telegraphic forecasts, and promptitude in the despatch of these is of very great importance. The system is an essential part of an international system based on the principle of synchronous observations, and every effort is made to secure synchronism and punctuality in transmission, in order to reduce to a minimum the time spent daily in the various Meteorological Institutes of European countries over the collection of telegraphic reports. I submit a copy of the instructions in Meteorological Telegraphy for telegraphic observers, wherein all the times specified are Greenwich times, and you will see that almost every page of the book contains some specification of time. The instructions would require to be altered if another time were used. The confusion which is caused already by the difference between Greenwich time and Irish time makes the suggestion of an alternative time standard for the whole kingdom very serious. The seventh point is that the daily service of the Office is divided into three parts, according to the time of observation, viz. 8 A.M., 2 P.M., and 6 P.M. The evening service is for the special purpose of storm warnings and for newspapers; 6 P.M. is selected as the latest hour for observations in time to place telegrams on the wires while the telegraph offices are still open. Complaints have already been received that the time of issue of the evening reports is too late for the newspapers. If by the operation of the Bill the newspaper work and the closing of the telegraph offices were made an hour earlier, the time of observation for the evening service would be relatively an hour later, and the evening service could not be continued on its present basis. My eighth and last point is that since 1903 (this is a point in my own experience at the Office) the Office has been endeavouring to change its morning hour of observation to 7 A.M. for its own purposes, and the insuperable obstacle has been that there are no telegraphic facilities at that hour. In that respect the Office hours are controlled by the Post Office. What is true of the Meteorological Office is likely to be true of other departments of activity, viz. that people wait for indispensable facilities which are under the immediate control of Parliament, and are not really affected merely by the denomination of the hours. An alteration of these denominations is not, therefore, necessary to Parliament to secure the advantages which are the object of the Bill.

The Cold Summer of 1907.—In an article in the *Scottish Geographical Magazine* for July 1908, Mr. Mossman discusses the meteorology of the South Orkneys and South Georgia in 1907. At both places the mean temperature of the June to August period was much below the normal, the mean temperature at Laurie Island for August being only 2°·0, or as much as 12°·5 below a five years' average. We have not yet forgotten that the summer of 1907 was cold and wet in our Islands, and it is remarkable that winter in the southern hemisphere and summer in the northern should have shown corresponding temperature anomalies. Mr. Mossman writes—

> "It is worthy of note that the cold of June, July, and August was equally marked in both hemispheres between the meridians of 20° East and 100° West, or one-third of the circumference of the globe. Thus we have the following departures from the normal in the mean temperature of the three months under review:—

NORTHERN HEMISPHERE.		LATITUDE.	SOUTHERN HEMISPHERE.		LATITUDE.
Copenhagen	−3°·2	55° 41′	Tucuman	−3°·5	26° 51′
Stockholm	−4°·2	59° 21′	Cordoba	−2°·5	31° 25′
Edinburgh	−2°·1	55° 55′	Buenos Aires	−2°·2	34° 37′
London (Greenwich)	−2°·4	51° 29′	South Georgia	−1°·7	54° 14′
Vienna	−1°·5	48° 14′	South Orkneys	−3°·9	60° 44′

> "With regard to the United States, the same abnormal cold prevailed. In the *Monthly Weather Review* for August, p. 366, we are told that over the central and northern portions of the Rocky Mountain and Plateau districts the mean temperature of that month was nearly 5° below the normal, and over the Lake Region, Middle Atlantic States, and New England, from 2° to over 4° below the normal, 'making the fifth consecutive month during which the temperature has been continuously below the average in these districts.'
>
> "Is it possible that there is an intimate relation between pressure anomalies in the boreal and austral regions and the weather in intermediate situations both north and south of the Equator? I venture to think so, especially as regards those regions which bound the shores of the North and South Atlantic. During the three months under review barometric pressure was unusually high in the Greenland Sea and in Iceland in the north, as well as (for most of the time) in the Antarctic, while pressure was low in the British Islands and over a considerable part of Europe, thus pointing to a displacement of the atmospheric 'centres of action.' It is to be hoped that the anomalous weather of the above period will be studied in detail, not for a restricted area, but for the whole globe."

The Isothermal Layer of the Atmosphere.—Dr. Shaw, as President of Section A. at the recent Dublin Meeting of the British Association (September 1908), delivered an inspiring address, and also promoted a valuable discussion on the "isothermal layer" of the atmosphere. For the full text of the address, and a very complete report of the discussion, we must refer to *Nature* (3rd September and 1st October 1908), contenting ourselves with the following from the *Times*:—

"The PRESIDENT opened a discussion on 'The Isothermal Layer of the Atmosphere.' He regretted that M. Teisserenc de Bort had been prevented from attending the meeting, as he, more than any other, might be considered the discoverer of the isothermal layer, and had made profound studies on the nature of the upper atmosphere. The President described the general character of the isothermal layer, whose presence had been announced by records obtained in balloons which ascended up to 20 kilometres. At a height of about seven kilometres a layer or coating of the atmosphere was encountered in which there was no alteration of temperature. Up to such a height the thermometric records gradually fell with tolerable uniformity, but after that approximate height there was no decrease in temperature with height. The object of the discussion was to discover reasons, or at least to make suggestions, in explanation of this constancy in temperature; whether it were due to chemical or physical causes, to radiation, or the composition of the atmosphere. M. de Bort had made special investigations as to the character of the air at this level, under the belief that possibly some of the recently discovered gases, such as argon, neon, krypton, etc., influenced the constitution. He had arranged for vacuum tubes to be sent up to a height of 14 kilometres, where they were automatically opened and then closed again, and in this way he obtained samples of the air. As much as two cubic metres had been brought down and submitted to examination, but without definite result.

"Professor ROTCH, the Director of the Blue Hill Meteorological Observatory, Mass., U.S.A., who had worked at the subject since 1904, gave numerical results. Nearly eighty rubber balloons had been sent up, and he had had a fair percentage of recovery of the instruments, which came to earth on the bursting of the covering, which was filled with hydrogen. The temperature of the inverting layer, which was understood to represent an inversion of the temperature gradient, and was therefore equivalent to the isothermal layer of M. de Bort, could be taken at −60°C., but at different times the temperature varied in a capricious manner, and at irregular heights. Figures were quoted to show that whereas temperatures of −67°C. had been met with at a height of 14,500 metres, two days later a temperature of −62°C. was found at 12,000 metres. There was a seasonal variation, and also from day to day. Moreover, local influences were noticeable; the stratum of inversion or position of the isothermal layer was higher in the United States than in England. In America the mean height was eight miles; in England, nearer six. In the tropics the isothermal layer was difficult to detect, but over the equator, at a height of twelve miles, the temperatures were lower than in northern regions. The lowest temperature ever recorded was −85°C. These were some of the facts that any adequate theory would have to explain. He had no theory to present which would explain the existence of such a relatively warm blanket over the earth, exhibiting a downward gradient from the equator.

"Mr. C. J. P. CAVE showed diagrams and explained the change in velocity of the wind in the isothermal layer, as determined by observations made by theodolites on the position of the balloons. The tendency of the velocity was to increase up to the height where the isothermal layer occurred, but at that point there was a decrease in the velocity, and the balloon became practically stationary.

"Mr. W. H. DINES dealt with the question whether the layer was real or due to errors of observation. He described the means taken to secure accuracy of measurement, and believed that the temperatures were correct to 1°C. Moreover, the observations made in England with different instruments and different methods confirmed the results obtained on the Continent. One difficulty to be explained was the great differences in temperature extending over small areas; for instance, a difference of 20°C. had been found in two balloons separated by no more than 200 miles.

"Mr. E. GOLD dealt with the theoretical side of the question. He pointed out that any theory of the isothermal layer must be primarily concerned with the absorption and emission of heat radiation by the atmosphere. The streams of radiation entering any layer were four—the solar radiation, the radiation from the atmosphere above the layer, the terrestrial radiation, and the radiation from the atmosphere below the layer. If the total amount of these four streams absorbed by the layer was less than the radiation emitted, its temperature must fall, and there would be the possibility of convective equilibrium. But if the absorption exceeded the emission, the temperature of the layer would rise, and there would be no possibility of convective currents penetrating from beneath. By utilising the experimental results of Langley, Paschen, and others to obtain an estimate of the absorptive power of the atmosphere, he had calculated the intensity of radiation entering any layer and the amount absorbed there. The application of the results to our atmosphere led to the results that, if the air were divided into two layers, the lower in adiabatic, the upper in isothermal equilibrium, the upper layer must extend as low down as 10 kilometres, where the pressure was one-quarter of that at the earth's surface, and it could not entend below 4½ kilometres, where the pressure was one-half that of the earth's surface. A further result obtained was that it was impossible for there to be a temperature as low as −100°C. at any point of the atmosphere."

The Daily Weather Report.—On the morning of 1st July 1908 an important change in the Daily Weather Report of the Meteorological Office was quietly initiated. From that date the morning message from the Telegraphic Reporting Stations in the British Isles was despatched at 7 a.m. instead of at 8 a.m., and a 1 p.m. observation was substituted for one made an hour later. This important change had been under consideration for many years, and many financial and administrative difficulties had to be overcome. It is a great advantage that the official reporting hour in our islands is now synchronous with that of the continental returns published in the Report, and the acceleration of the messages owing to their despatch at an hour when the wires are not in ordinary use must be a great consideration.

We may remind our readers that the terms of subscription to the Daily Weather Report are appended to Mr. Lempfert's paper in our last issue.

An International Essay Competition.—We have great pleasure in publishing, at the request of Professor G. Hellmann, of Berlin, Director of the Royal Prussian Meteorological Institute, and President of the German Meteorological Society, the conditions of an International Essay Competition promoted by that Society. A prize of 3000 marks is offered for the best discussion of the Meteorological Observations obtained on the International Balloon and Kite Ascents, so far as these shall have been published.

CONDITIONS.

1. The judges are at liberty to divide the prize should that prove advisable.
2. Persons of all nationalities may compete.
3. Essays must be written legibly, and on one side of the paper only, and may be in German, English, or French. They must be anonymous, must have a motto attached, and must be accompanied by a sealed envelope with this motto outside, and the name and address of the competitor inside.
4. Essays must be sent in not later than 31st December 1911, to the President of the Society, Geheimer Regierungsrat Professor Dr. G. Hellmann, Berlin W. 56, Schinkelplatz 6.
5. There will be five judges, and the results of the Competition will appear in the *Meteorologische Zeitschrift* in 1912.

6.

REVIEWS.

Report on the Scientific Results of the Voyage of S.Y. Scotia *during the years 1902, 1903, and 1904, under the leadership of William S. Bruce, LL.D., F.R.S.E.* Vol. II. Physics. Part I. "Meteorology," by R. C. Mossman, F.R.S.E. Part II. "Magnetism," by Charles Chree, Sc.D., F.R.S., and R. C. Mossman, F.R.S.E. Part III. "Tides," by Sir George H. Darwin, K.C.B., F.R S. Pp. v. + 324. Maps, diagrams, and photographs. (Edinburgh: The Scottish Oceanographical Laboratory, 1907.) Price, One guinea.

The Scottish National Antarctic Expedition of 1902–1904 sailed with the express intention of specialising more particularly in oceanography and meteorology, and that intention has been carried out in an admirable manner. The bathymetrical work in the Weddell Quadrant, along with the discovery of Coats Land in 72° 25′ S, casts a new light on the probable limits of "Antarctica" to the south of the South Atlantic, and on the meteorological side the work commands the highest respect. The expedition was fortunate in having as its leader a man with a unique experience of polar work, who had already visited the Antarctic, and it was fortunate in having Mr. R. C. Mossman as meteorologist. No one could have been better fitted to organise the meteorological work, and, as Dr. Bruce justly points out, it places the claims of the *Scotia* expedition to consideration on a very high plane, "that the results have been worked up by the man who directed operations in the field."

Meteorology occupies nearly the whole of the volume now under review. The instruments used, and the method of their exposure, are first briefly described: here those interested in the making of observations at sea may note that on the voyage of the *Scotia* two thermometer screens were used, one on each side of the ship. As a rule, one side was definitely a lee side and the other definitely a weather side: the lee side was generally the warmer by one or two degrees, and on one occasion by as much as 5° F., and the readings on the weather side were those entered in the log. We have then the various records of the expedition set forth, under the following four headings, in a manner that leaves nothing to be desired:—

(1) Meteorological Observations made during the Voyage; (2) Meteorological Observations made at Laurie Island, South Orkneys; (3) Meteorological Log of the *Scotia*; (4) Meteorological Observations made at Cape Pembroke in the Falkland Islands. Following this mass of rich material we have four separate memoirs from Mr. Mossman, who discusses in turn the Observations made at Sea, the Meteorology of the South Orkneys, the Cape Pembroke Observations, and the Meteorology of the Weddell Sea.

The winter quarters of the expedition were in Scotia Bay, Laurie Island, South Orkneys, in lat. 60° 43′ 42″ S, long. 40° 38′ 33″ W. There, from April to October 1903, a system of hourly observations was maintained on board the ship as she lay locked in the ice; thereafter work was conducted on land, with Omond House as a residence for the observers. Mr. Mossman and his colleagues are not to be envied the weather they experienced. Though the South Orkneys were found to lie definitely within the great west wind system, very low temperatures for so moderate a latitude prevailed, relative humidity was high, and the amount of sunshine meagre in the extreme. When we recollect that the South Orkneys lie practically as far south of the equator as our own Orkneys lie to the north, and note that the *warmest* month experienced at Laurie Island during the year ending March 1904 had a mean temperature of only 32°·6, whereas the *coldest* month of the year at Deerness has normally a temperature of about 39°, the enormous climatic difference that prevails between the northern and the southern hemispheres is forcibly brought home to us. We give below the monthly mean pressure, mean and extreme temperatures, and amounts of sunshine, for the period April 1903 to March 1904.

RESULTS FOR LAURIE ISLAND IN THE SOUTH ORKNEYS.

	Mean Pressure.	Mean Temp.	Maximum Temp.	Minimum Temp.	Sunshine.	Per cent. of Possible.
1903.	in.	°	°	°	hours.	
April . . .	29·204	20·6	36·2	– 8·1	26·7	17
May . . .	29·329	17·1	46·0	–15·7	3·7	4
June . . .	29·256	9·5	41·5	–26·0	12·8	8
July . . .	29·160	16·9	34·2	–13·8	35·7	14
August . . .	29·286	18·8	38·0	–15·4	75·5	25
September . .	29·239	13·4	40·0	–25·8	58·5	16
October . . .	29·340	27·0	42·0	– 9·1	89·4	21
November . .	29·118	29·3	41·4	14·9	73·3	15
December . .	29·200	31·5	40·8	25·4	49·0	10
1904.						
January . . .	29·158	32·3	44·4	25·4	45·7	13
February . .	29·164	32·6	47·0	27·0	20·4	7
March . . .	29·107	32·4	39·9	20·8	25·8	11
MEANS AND SUM .	29·213	23·4	...	...	516·5	14

[The sunshine amount entered for April 1903 is that for April 1904.]

Mr. Mossman's discussion of the Climate of the South Orkneys is of a characteristically thorough nature, and there are many points on which we should like to dwell. We must content ourselves, however, with pointing out the important geographical bearing of his analysis of the variation of temperature with wind direction. Thus we have the following table:—

MEAN TEMPERATURE OF THE DIFFERENT WINDS.

	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Mean.
1903.	°	°	°	°	°	°	°	°	°	°
April . . .	28·7	29·0	21·6	11·6	11·3	12·7	25·2	24·0	15·7	20·6
May . . .	26·1	27·4	21·7	5·5	6·3	4·0	19·7	21·4	4·9	17·1
June . . .	20·5	19·8	18·0	–4·2	–2·8	3·7	5·0	21·5	4·7	9·5
July . . .	25·6	26·6	22·9	3·8	–3·9	12·1	3·2	26·4	6·2	16·9
August . .	23·4	26·8	25·8	9·3	8·6	4·9	1·7	22·3	7·7	18·6
September . .	20·6	25·4	25·0	8·1	6·1	3·4	0·7	18·2	10·0	13·4
October . .	26·6	29·9	29·6	19·9	15·5	18·8	7·2	27·6	24·9	27·0
MEANS .	24·8	26·9	23·9	7·4	5·2	5·6	8·1	22·4	11·0	17·6

Hence there is a great difference in the temperature of winds from NW and N and those from SE and S, and this difference reaches a maximum in midwinter, southerly winds in July being colder than northerly winds by nearly 30° F. The opinion is expressed that these results indicate the existence of a mass of land, the northern extremity of which is in lat. 65° S, long. 44° W, where both Morrell (1823) and Ross (1843) reported an "appearance of land." Now the determination of the outline of Antarctica to the south of the South Atlantic is one of the polar problems of the future. Previous to the *Scotia* expedition, the only known lands within the Antarctic Circle in that region were Enderby Land in about 50° E and Grahams Land in about 60° W, and the coast line between these two points was supposed to run as far south as 80° S. But now Ross's famous deep sounding of "4000 fathoms and no bottom" in the Weddell Sea, on which this theory of the continental outline was mainly based, has been shown to be erroneous; and Bruce in 20° W has added Coats Land to the known world, some 600 miles farther north than any land was supposed to exist. The question now remains how the continental outline runs between Coats Land and Enderby Land on the one hand, and Coats Land and Grahams Land on the other hand. On the latter part of the problem, the *Scotia's* meteorological results appear to have an important bearing. In this connection it may be noted that, whilst the ship was in the vicinity of Coats Land, the diurnal range of the various elements was of a pronounced continental type, and extremely low humidities were met with, one day having a relative humidity of only 18 per cent.

The observations from Cape Pembroke for the two complete years 1903 and 1904 were prepared for publication in the Meteorological Office. Here the most interesting point made by Mr. Mossman is that of the correlation of the weather conditions in the Falkland Islands with those of the farther south. Thus May and December of 1904 were much colder than the corresponding months of 1903, and characterised by a greater frequency of polar winds and a much smaller allowance of sunshine.

> "Now in December 1903 there was no pack in the vicinity of the South Orkneys or in the sea to the north, while in December 1904, not only were the Orkneys ice-bound, but the pack-ice was met with 250 miles NW of these islands. This extension northwards of the ice-pack accompanied the excess of southerly winds in December 1904 mentioned above, and these closely allied factors evidently materially affected the climate of the Falkland Islands, and probably their chilling influence extended to more northern latitudes."

In conclusion, we consider that the work of the *Scotia* expedition has been marked by an admirable thoroughness, and that Mr. Mossman's "results" are full of suggestiveness. Further, the work was not only excellent in itself, but remarkable as the inspiration and starting-point of most notable enterprise on the part of the Argentine Meteorological Office, under Mr. W. G. Davies. It may be recalled that Mr. Davies took over the *Scotia's* station at Omond House, that Mr. Mossman remained for a second year in the South Orkneys as an Argentine official, and that observations have been maintained there continuously now for five years.

The volume is enriched with diagrams, maps, and numerous excellent photographs. Through the kindness of Dr. Bruce, a photograph of Omond House, with the Scottish and Argentine scientific staffs of 1903–4–5, serves as a frontispiece to this issue.

National Antarctic Expedition, 1901–1904. METEOROLOGY: Part I. "Observations at Winter Quarters and on Sledge Journeys, with Discussions by various authors." Prepared under the Superintendence of the Director of the Meteorological Office with the co-operation of a Committee of the Royal Society. Pp. xiv. + 548. Maps, diagrams, and illustrations. (London: The Royal Society, 1908.) Price not stated.

The publication of the meteorological "results" of the *Discovery* Expedition has naturally been awaited with the keenest interest, and now these results are before us in a handsome volume, issued by The Royal Society. The *Scotia* Expedition was able to assign to one of its own staff the important work of discussing its meteorological observations, whilst in the case of the *Discovery* the whole burden of preparing the observations for press and of discussing them was thrown on the Meteorological Office. The result is in the highest degree creditable to that office.

About one-half of the volume is taken up with the Meteorological Journal of the *Discovery* at her winter quarters, and about eighty pages with journals of observations made on the various sledge journeys, including the famous journey of Captain Scott, Lieutenant Shackleton, and Dr. Wilson to the "Farthest South" (82° 16′ 33″ S, on 30th December 1902). The two-hourly observations of the various elements are then tabulated in convenient form, and followed by summary tables, not only for the *Discovery*, but for other Antarctic expeditions, including those of the *Gauss*, the *Scotia*, and the relief ship, the *Morning*. This is a useful feature of the volume. The extensive statistical matter is preceded by a description of the various instruments and their exposure by Lieutenant Royds, R.N., the acting meteorologist of the expedition, and followed by eight separate memoirs by five different specialists. It is a satisfaction to find so large a part of the volume, about one-fifth, devoted to discussion. Captain Campbell Hepworth, C.B., discusses "The Climatology of South Victoria Land and the Neighbouring Seas." Dr. Chree, F.R.S., analyses very fully the temperature observations made at the winter quarters; whilst Mr. W. H. Dines, F.R.S., in two separate papers, deals with various aspects of thermometry, and with the observations of evaporation and precipitation, and of the evaporation of ice. Three papers by Mr. R. H. Curtis are devoted to the barometric observations, problems arising out of the observations of wind, and the records of sunshine and of cloud. To the entire volume the Director of the Meteorological Office himself contributes an introductory paper, in which he freely discusses various conclusions of his colleagues.

The temperature records of an expedition that spent two years in as high a latitude as 77° 51′ S are, of course, of exceptional interest. The mean monthly temperatures during the period spent at the winter quarters on the edge of South Victoria Land were as follows:—

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1902	...	15·9	8·0	−7·1	−12·5	−16·0	−8·1	−16·5	−12·0	−8·5	12·0	23·1
1903	26·1	11·2	−0·8	−16·9	−16·0	−13·8	−21·1	−16·5	−18·6	−6·8	15·4	25·7
1904	22·5	21·5	...	...	...	...	...	...	...	...	...	...

The extreme range of temperature was from 42°·0 on 26th February 1903 to −58°·5 on 20th September in the same year, and the records further show that there was only a single month in which temperature did not fall below zero Fahrenheit. The outstanding feature of the results is possibly the low summer temperatures which prevailed. The warmest month experienced had a mean temperature of only 26°·1, and though we have no means of determining whether the summers of 1902–3 and 1903–4 were colder or warmer than usual, it may be assumed that the *Discovery* results indicate an extensive area in Antarctica with a mean summer temperature several degrees below the freezing-point. This is a notable fact. Generalising further, the *Scotia* results and those of the other expeditions indicate that the summer isotherm of 32° lies in every direction well to the north of the Antarctic circle. The *Discovery* records are the more striking when we consider that the *Fram*, in a far higher northern latitude (82°–83° N), experienced a mean July temperature of 32°·9, and that Mohn, in discussing the results of the Norwegian North Polar Expedition, assigns to a large part of the area embraced by the Arctic circle, a normal summer temperature above the freezing-point. The remarks of Mr. Dines on the coldness of the Antarctic summer are very suggestive. That coldness is the more remarkable when we consider that the earth is in perihelion during the Antarctic summer, and insolation greater in the Antarctic regions at that time than at any other part of the earth's surface at that or any other time.

The cold experienced by the *Discovery* was relieved in the summer half-year by a splendid allowance of sunshine. Though the sun at the latitude of the winter quarters was below the horizon from 24th April to 21st August, yet during 1903 no less than 1727 hours of bright sunshine were registered by the Campbell Stokes recorder, or more than thrice the allowance at the South Orkneys. December 1903 had the magnificent total of 490 hours, or 66 per cent. of the total possible amount, and a long spell of almost continuous sunshine which lasted 12 days, during which period the sum of the sunless intervals amounted to less than 15 hours.

The prevailing winds at the *Discovery's* quarters were from the East, and the smoke of Mount Erebus gave a means of systematically noting the direction of movement of the upper air. The prevailing direction of the smoke was from about South of West, practically opposite to that of the air at sea-level. We should naturally pass from these joint considerations to speculations as to the general circulation of the atmosphere in South Polar regions, but are met with the fact that whilst the staff of the *Discovery* regarded the Easterly wind observed in the neighbourhood of the winter quarters as a "local" wind, the observations themselves are inconclusive on that point. Dr. Shaw points out that there is uncertainty whether the wind direction as recorded on certain sledge journeys that should have been of the highest meteorological importance is "true" or magnetic,—a bewildering state of affairs in a region where "the magnetic variation is so great as to make the difference between a South-Westerly and an Easterly direction."

The style of the volume is in every way worthy of its importance. Dr. Wilson contributes coloured representations of various solar phenomena, and sketches of Mount Erebus with its trail of smoke. There are also photographs of Antarctic cloud forms, and of a model of the *Discovery's* winter quarters, made in the Meteorological Office. There are also two maps, a general one of the South Polar regions, and one of South Victoria Land, showing the tracks of the various sledge journeys. We do not understand on what principle names have been selected for a place of honour on a subsidiary but untitled map, which, at first sight, appears to enshrine the names of all explorers who have penetrated the Antarctic circle. Why is Weddell there, and the discoverer of Coats Land absent? And was not Ross as great as Cook?

Climate: considered especially in relation to Man. By ROBERT DE COURCY WARD, Assistant Professor of Climatology in Harvard University. With illustrations. Pp. xv. + 372. (London: John Murray, 1908.) Price, 6s. net.

Some years ago Professor Ward, of Harvard University, placed English readers under great obligations by translating the first volume of Hann's splendid *Handbuch der Klimatologie*, and now he publishes an original work entitled *Climate*. Professor Ward regards his own work as in a way supplementary to that of the great Austrian master, and confesses to have found his inspiration in Hann's treatise. The book is "based on lecture notes which have been accumulating for the past ten years." It is the work of a man of wide reading, covers a wide field, and entirely meets the wishes of its publishers that it should handle the broad questions of climate in such a way as to be appreciated by any intelligent person who had had "no special or extended training in the technicalities of the science."

An introductory chapter sets forth the meaning and scope of climatology, and discusses, in general terms, some problems of solar and of physical climate. Then follows (Chaps. I., II., III.) an account of the various classifications of climate that have been proposed from the days of Ptolemy onwards. The controlling influences of the distribution of land and water are considered, and the work of Supan, Köppen, and Herbertson described. In Chapters IV., V., and VI., the climatic characteristics of the Tropical, Temperate, and Polar zones are dealt with in detail. Here the discussion of Arctic and Antarctic climate refers to the most recent material, and is of special value. Chapter VII. treats of the Hygiene of the Zones,—a rather complex subject,—and leads up to a discussion of the life of mankind in the various climatic regions (Chaps. VIII., IX., X.). A final Chapter deals with the question of change of climate within historic times, and adopts, as one would expect, a very conservative attitude.

As a specimen of the author's style, we quote the following passage on the value of evidence concerning changes of climate:—

> "The body of facts which has been adduced as evidence of progressive changes of climate within historical times is not yet sufficiently large and complete to warrant any general correlation and study of these facts as a whole, especially from the point of view of possible causation. But there are certain considerations which should be borne in mind in dealing with this

evidence, certain corrections, so to speak, which should be made for possible controls other than climatic, before conclusions are reached in favour of climatic changes. In the first place, it has been noted above that changes in the distribution of certain fruits and cereals, and in the dates of the harvest, have often been accepted as undoubted evidence of changes in climate. Such a conclusion is by no means inevitable, for it can easily be shown that many changes in the districts of cultivation of various crops naturally result from the fact that grapes, or corn, or olives, are in time found to be more profitably grown, or more easily prepared for market in another locality. Thus the area covered by vineyards in northern Europe has been very much restricted in the last few hundred years, because grapes can be raised better and cheaper farther south. Cultivation in one district is abandoned when it is more profitable to import the product from another. It is easy, but not right, to conclude that the climate of the districts first used has changed. Wheat was formerly more generally cultivated far north in the British Isles than is the case at present, because it was profitable. Later, after a readjustment of the taxes on breadstuffs, it was no longer profitable to grow cereals in that region, and the area thus cultivated diminished. Changes in the facility, or in the cost, of importation of certain articles of food from a distance are speedily followed by changes in the districts over which these same crops are grown. Similarly, the introduction of some new plant, better suited to the local soil and climate, will result in the replacement of the older product by the newer."

Professor Ward acknowledges his general indebtedness to the well-known works of Hann, Ratzel, Köppen, Supan, Woeikof, Herbertson, and others, and has evidently in his notebooks an extensive bibliography of the subject. Therefore we can the less forgive him for having given such scanty references throughout the book, so that it partly fails of being an inspiration to wider reading, as such a book should be. Thus, in the last Chapter, nearly thirty writers are cited, but not a single reference is given. As it stands, the book is a most useful one: we hope that in a future edition the learned author will perfect it by giving extended references, as Hann does so fully in his various works.

The Observer's Handbook.—Meteorological Office. A new and revised edition of Dr. R. H. Scott's Instructions in the Use of Meteorological Instruments. Published by the Authority of the Meteorological Committee. Pp. 134. (London: Printed for H.M. Stationery Office.) Price, 3s.

The Director of the Meteorological Office has done great service in preparing this book, which should do much towards promoting that uniformity of practice which every meteorologist feels to be an urgent necessity if the work of the growing army of observers is to be profitably handled by central organisations. We have already tested the usefulness of the book by referring to it correspondents who have asked for information on various matters. It is an entirely practical manual, and does not deal with the mode of construction and physical bearing of the various instruments. Considerable space is devoted to non-instrumental observations of wind, cloud, and general weather, and the decisions of recent International Conferences are incorporated. An Appendix contains various useful tables, and a "Memorandum on the Suggested Uniformity of Units for Meteorological Observations and Measurements" approved by the Meteorological Council in 1904, and adopted by the Council of the British Association. We should like to see this book widely used in Scotland.

7.

REPORT OF THE COUNCIL.

General Meeting of the Society, 9th July 1908.

A General Meeting of the Society was held at 5 St. Andrew Square, Sir Arthur Mitchell, K.C.B., Vice-President, in the chair.

The Council had prepared a revised form of Constitution, and this had been previously circulated amongst the members for their consideration. On the motion of Mr. G. Williamson, seconded by Mr. J. Anderson, this revised form, which is printed below, was adopted.

The Council also submitted the accompanying statement regarding the work and the financial position of the Society. Mr. W. B. Wilson, the Honorary Treasurer, stated that the bank overdraft of £170, for which the Society had to assume responsibility when the Ben Nevis Observatories were closed in 1904, had been slightly reduced out of the ordinary income of the Society: it would be a great relief to the Council if some special means of liquidating this obligation could be found. A useful discussion took place as to various fields of activity in which the Society might engage, the speakers including—Mr. J. Anderson; Professor Crum Brown; Professor Dyson, Astronomer Royal for Scotland; Professor Knott; Mr. Macdonald, Secretary of the Highland and Agricultural Society; Mr. T. S. Muir, of the Royal High School, Edinburgh; Mr. D. Paulin; and Mr. A. Watt.

It was resolved that the present Council hold office till December of the present year (1908), when the first election of Council under the revised constitution will take place.

STATEMENT TO THE MEMBERS OF THE SCOTTISH METEOROLOGICAL SOCIETY BY THE COUNCIL.

The Council have had under consideration the Constitution of the Society. A copy of the Constitution and Laws as revised is appended, and will be proposed for adoption to the Meeting on 9th July next.

The Council desire briefly to direct the attention of the Members to the position of the Society.

Members are aware that for over fifty years the Society has maintained an extensive system of Meteorological observations by voluntary observers all over Scotland, and that summaries of these observations appear in the *Journal*. Many of the returns are sent to the Registrar-General for Scotland and to the Meteorological Office in London. The work of the Society has been increasing of late years, but there has been no corresponding increase of the income by the aid of which the work is done.

The Society has to maintain a paid staff to reduce and discuss the observations and to carry on its business. It has also to pay the rent of rooms, to keep up the library, and to publish the *Journal*.

The sources of income are—

(*a*) The Subscriptions of Members.

(*b*) An Annual Payment of £100 for the Reports sent to the Registrar-General for Scotland.

(*c*) A Payment, amounting at present to £95 a year, for work done and information supplied to the Meteorological Office in London.

The Ben Nevis Observatories were closed in 1904, and when their affairs were wound up they were found to be about £470 in debt. This absorbed the Society's Reserve Fund of £300 which had been lent to the Observatories, and left a bank overdraft of £170, for which the Society had to assume responsibility.

The Council desire to represent very strongly the great desirability of obtaining a large increase of the Membership. Every Member can do something in this direction. Death has caused numerous vacancies, and it is earnestly hoped that these will soon be more than filled.

It is the intention and desire of the Council that the Society shall devote its energies mainly to the study of the Meteorological problems of the Scottish area, and render its work useful and interesting to the Scottish people. There should be many in all classes of the community who would readily join the Society if the Scottish character of its work were better known.

ARTHUR MITCHELL, *Vice-President.*
R. T. OMOND, *Hon. Secretary.*

122 GEORGE STREET,
EDINBURGH, 29*th June* 1908.

CONSTITUTION AND LAWS OF THE SCOTTISH METEOROLOGICAL SOCIETY.

As Revised and Approved at a Meeting of the Society on 9th July 1908.

1. The object of the Society shall be the advancement of Meteorology, in a special manner through the study of the Meteorology of Scotland.

2. The Society shall consist of (1) Ordinary Members (ladies or gentlemen), and (2) Honorary Members, who shall be persons that have rendered distinguished service to Meteorology or to the Society.

3. Candidates for Ordinary Membership shall be proposed and seconded by two Members of the Society, and elected by the Council, a majority to decide. Honorary Members shall be proposed and elected by the Council.

4. Ordinary Members shall pay an annual subscription of One Guinea. Such subscription shall be payable on either 1st January or 1st July, whichever is nearer to the date of election. Persons, however, who have already become Members of the Society at a different rate of subscription may continue to pay at that rate. Ordinary Members may, at entrance, compound for future subscriptions, and become Life Members by a payment of Ten Guineas; or, after ten annual payments have been made, by a payment of Six Guineas. Honorary Members shall not be liable for any subscription.

5. The privileges enjoyed by Members are—(1) To receive the Journal and any other publications of the Society from the date of election; (2) To consult the Meteorological books and manuscripts in the Society's library; (3) To communicate with the Society's Secretary, personally or by letter, on Meteorological subjects; (4) To purchase through the Society instruments certified to be correct; (5) To have their instruments compared with the Society's standards.

6. Any Ordinary Member who is three years in arrear with his or her subscription shall, after notice to that effect from the Secretary by registered letter, cease to be a Member of the Society, unless the arrears are paid up within two months from the date of posting of the said letter.

7. Ordinary Members only may vote or hold Office in the Society.

8. The management of the Society shall be vested in a Council which shall consist of—

A President, who shall hold office for three years.

Two Vice-Presidents, each of whom shall hold office for two years.

One or more Honorary Secretaries, to be elected annually.

One or more Honorary Treasurers, to be elected annually.

Nine Councillors, two of whom shall retire annually by rotation, and shall not be eligible for re-election until after the lapse of one year.

At any Meeting of Council four shall be a quorum, the Chairman to have a casting as well as a deliberative vote.

In the event of a vacancy occurring in the Council through death or resignation, the Council shall have power to fill up the vacancy, subject to confirmation at the next Business Meeting.

9. The Annual Business Meeting of the Society shall be held in the month of December, on some day to be fixed each year by the Council. At this Meeting the Council for the ensuing twelve months shall be elected. Notice of the names of proposed Candidates to fill vacancies on the Council must reach the Secretary not later than the 15th November preceding.

10. The Council shall appoint a Secretary and Assistants to carry on the work of the Society, and shall fix the salaries to be paid to them, and the terms of their engagements.

11. The Council shall have power to call General Meetings of the Society from time to time for the reading of papers or for other purposes as they may see fit.

12. Every proposal for altering the Constitution must be made through the Council, and must be considered and determined on at an Annual Business Meeting, or at a General Meeting called for the purpose. The terms of any such proposal shall be intimated in the notice calling such Meeting.

ABSTRACT OF THE ACCOUNTS OF THE SCOTTISH METEOROLOGICAL SOCIETY,

FROM 30TH JUNE 1907 TO 30TH JUNE 1908.

CHARGE.

I. **BALANCE** from last Account . . .				£524	17	2
II. **INCOME** during Year—						
Annual Subscriptions .	£283	4	0			
Life Members' Subscriptions . . .	52	10	0			
Journal—Sales and Advertisements . .	8	6	9			
Sum received from Meteorological Council for Weather Reports .	95	10	0			
Grant from Government	100	0	0			
Interest . . .	1	18	7			
				541	9	4
Note—						
Income for Year . .	£541	9	4			
Expenditure . . .	491	15	3			
Surplus for Year . .	£49	14	1			
Which being added to Balance on last Account	524	17	2			
Balance at 30th June 1908	£574	11	3			
				£1066	6	6

DISCHARGE.

I. **EXPENDITURE** during Year—						
Salaries				£266	4	6
Travelling Expenses, visiting Stations				4	3	9
Cost of *Journals*, paid during year .				69	1	9
General Printing, Advertising, and Stationery				20	14	5
Postages and Petty Outlays . .				27	5	0
Office Rent, Gas, Taxes, and Insurance				56	19	5
Furnishings and Instruments . .				27	6	5
Grant to Ben Nevis Observatory Fund in reduction of Overdraft . . .				20	0	0
				£491	15	3
II. **BALANCE** at close of this Account—						
Loan to Ben Nevis Observatory Fund . .	£300	0	0			
Balance in Account Current with Union Bank of Scotland .	272	7	4			
Balance due by Treasurer	2	3	11			
				574	11	3
				£1066	6	6

EDINBURGH, 6*th July* 1908.—Examined and found correct.

P. C. ROBERTSON, C.A., *Auditor*.

ABSTRACT OF THE ACCOUNTS OF THE BEN NEVIS OBSERVATORY FUND,

FROM 30TH JUNE 1907 TO 30TH JUNE 1908.

CHARGE.

I. Grant from Scottish Meteorological Society in reduction of Bank Overdraft . .				£20	0	0
II. **BALANCE** at close of this Account—						
Loan from Scottish Meteorological Society	£300	0	0			
Balance due to Union Bank of Scotland, Edinburgh . .	133	5	1			
				433	5	1
				£453	5	1

DISCHARGE.

I. **BALANCE** from last Account	£452	17	7
II. **EXPENDITURE**—			
Interest on Bank Account . . .	0	7	6
	£453	5	1

EDINBURGH, 6*th July* 1908.—Examined and found correct.

P. C. ROBERTSON, C.A., *Auditor*.

3. TABLE OF ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1907.

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Dunrossness,	Shetland,	4·68	3·57	3·02	2·15	1·58	2·62	1·40	4·64	3·81	3·70	5·05	2·95	38·17
Lochend, Northmavine	,,	6·50	4·05	3·98	2·38	1·46	2·93	1·27	4·25	3·17	4·77	6·25	3·16	44·17
Balfour Castle,	Orkney,	3·85	2·45	3·25	1·08	1·05	2 29	1 00	2·89	·85	2·19	3·20	2·41	26·51
Wick,	Caithness,	3·57	2·89	2·09	2·22	1·44	4·12	1·32	3·61	1·13	3 27	1·83	2·13	29·62
Watten,	,,	2·83	1·54	1·46	1·74	·98	3·24	1·06	2·98	·54	2·40	1·63	1·57	21·97
Bettyhill,	,,	3·72	2·12	2·20	2·03	2·05	3·56	1·29	4·93	·81	2·09	1·96	2·40	29·16
Castletown,	,,	3·89	3·01	2·50	2·18	1·32	3 96	1·19	4·38	·68	2·98	2·08	3·03	31·20
Invershin,	Sutherland,	4·22	2·66	2·11	2·20	3·79	3·11	1·33	3·09	·88	1·97	2·57	3·58	31·51
Altnaharra,	,,	5·25	4·40	3·59	2·38	2·44	3·53	1·64	3·04	·93	1·62	2·78	3·16	34·66
Stornoway,	Ross,	3·30	4·83	2·99	2·28	2·78	4·44	2·66	5 00	2·68	2·73	5·00	5·07	43·76
Strathpeffer,	,,	3·31	3·81	3·15	1·38	1·93	3·63	2·08	2·55	·75	1·62	2·27	2·56	29·04
Swordale House,	,,	2·70	2·80	2·20	1·10	2·30	3·90	·80	2·20	·20	1·70	2·60	2 90	25·40
Novar,	,,	3·63	2·91	2·87	2·51	2·95	5·44	1·89	3·77	1·18	2·75	3·03	3·73	36·66
Fearn,	,,	1·64	1·14	1·15	·90	2·49	3·10	2·56	1·39	·75	2·23	2·16	2·34	21·85
Ardross Castle,	,,	4·16	3·42	2·78	2·35	4·20	5·38	2 01	3·45	1·02	3·12	3·40	3·47	38·76
Strathconan,	,,	4·75	4·81	1·68	1·00	2·30	3·49	3·22	3·77	·30	2·43	2·39	1·94	32·08
Applecross,	,,	5·34	7·57	6·35	4·35	3·07	5·62	4·57	5 08	1·72	3·92	4·60	6·38	58·57
Loch Drome,	,,	6·56	5·82	6·35	3·32	2·54	5·43	3·21	7·25	3 28	2·46	4·38	7·42	58·02
Loch Bhraon,	,,	6·51	5·90	7·40	4·30	2·35	6·02	3·40	7·42	2·04	1·68	5 35	8·20	60·57
Braemore House,	,,	3·15	8·10	7·10	5·00	2·00	7·04	4·10	5 58	2·10	2·16	4·50	6·82	57·65
Poolewe,	,,	6 56	5·82	6·27	2·61	2·45	5 53	3·31	6·77	2·60	3·11	4·11	6·05	55·19
Bendamph,	,,	9·48	11·83	9·47	5·45	4·52	9·41	5·11	9·59	4·02	3·37	9·37	9·30	90·92
Glenuaig,	,,	15·70	15·90	16·40	7·10	4·60	11·10	6·10	12·10	7·50	5·90	10·10	10·90	123·40
Lochmaddy,	Inverness,	4·12	3·15	4·24	1·54	3·24	3·99	1·39	5·10	2·41	2·21	4·53	5·05	40·97
Barra, Castlebay,	,,	...	...	...	...	...	...	...	6·47	1·19	2·68	4 40	4·13	...
Kinlochmoidart,	,,	5·68	5·61	5·73	4·09	3·83	5·93	4·58	9·77	3·08	3·73	8·04	6·96	67·03
Glenquoich,	,,	14·40	18·48	14·48	5·09	7·20	11·12	5·16	15·22	5·08	5 33	12·66	14·42	128·54
Glen Dessary,	,,	13·60	6·39	9·90	4·76	6·62	8·80	3·70	12·39	3·95	5·01	10·71	12·27	98·10
Invergarry,	,,	6·36	7·07	6·09	3·17	4·09	4·84	2·48	6·83	2·20	3·21	6·29	8·66	61·29
Spean Bridge,	,,	7·70	6·85	6·25	3·07	3·92	4·42	2·03	7·79	2·49	3·05	5·52	5·76	58·85
Glenfinnan,	,,	10·42	10·49	8·77	5·68	5·12	9·60	3·71	12·98	5·20	4·74	11·44	12·30	100·45
Aviemore,	,,	2·65	2·53	2·03	1·67	1·69	3·27	1·72	3·06	·86	3·52	1·98	1·84	26·82
Drumnadrochit,	,,	2·40	2·90	2·66	1·51	2·09	4·08	2·24	2·81	·66	3 67	3·12	2·93	31·07
Killin, Loch Ness,	,,	2·70	4·30	6·00	3·60	2·70	4·70	1·60	4·60	2·40	3 60	3·60	4·60	44·40
Garthbeg, ,,	,,	3·01	4·20	3·24	1·50	2·12	3·93	1·69	3·51	1·19	3·07	4·06	4·32	35·84
Aberchalder, ,,	,,	2·49	2·49	3·13	1·91	2·31	3·69	1·69	3·27	1·02	3·27	3·75	2·06	31·08
Foyers, ,,	,,	3·33	5·47	3·52	1·22	2·40	3·79	1·63	3·74	1·08	2·57	2·89	4·30	35·94
Loch Leven Water Power—														
No. 1 Kinlochleven,*	,,	7·79	9·39	7·69	3·63	6·81	6·30	3·96	9·91	3·02	4·59	8·21	9·30	80·60
,, 2 Blackwater Dam,*	,,	4·98	6·48	7·13	3·93	6·17	7·06	2·69	9·98	2·73	3·55	6·56	7·70	68·91
,, 3 Ciaron House,	,,	8·85	8·85	7·29	3·07	6·20	6·16	2·92	9·55	2·25	4·65	6·55	6·80	73·14
,, 4 Blackwater House,*	,,	5·65	7·40	6·54	3·32	6·45	6·91	2·70	11·60	2·45	4·40	6·90	9·10	73·42
,, 5 Cam Bridge,	,,	5·39	5·63	7·40	2·72	4·83	4·78	2·04	5·83	1·91	3·16	5·89	6·61	56·19
,, 6 Invercam,*	,,	4·91	7·10	6·74	3·00	6·22	5·39	2·38	8·10	1·86	4·13	6·05	6·90	62·78
Delnies,	Nairn,	1·67	1·73	1·58	1·91	2·92	4·58	2·30	3·29	·71	4·31	2·11	1·61	28·72
Achareidh,	,,	1·31	1·33	1·08	1·06	3·08	4·74	2·33	3·12	·69	4·31	2·05	1·41	26·51
Cawdor,	,,	1·70	2·03	2·20	1·73	3·29	4·52	2·65	3·27	·70	5·04	1·76	1·65	30·54
Grantown,	Elgin,	2·08	1·71	1·87	2·57	2·56	5·20	2·77	3·44	·93	3·08	1·78	1·19	29·18
Archiestown,	,,	1·79	2·59	1·98	2·21	2·61	4·85	2·80	3·08	·68	5·32	1·50	1·69	31·10
Duffus House,	,,	1·45	1·25	1·17	1·42	1·80	5·09	2·55	2·57	·69	3·87	1·56	1·39	24·81
Kinloss,	,,	1·47	1·09	1·12	1·41	1·83	4·64	1·50	3·01	·50	4·03	1·80	1·43	23·83
Cullen House,	Banff,	2·44	1·38	1·25	1·06	2·00	4·00	3·05	3·40	·60	3·30	1·90	1·85	26·23
Earl Hill,	,,	1·92	1·70	1·21	1·24	1·73	4·28	2·08	3·24	·95	3·91	2·16	1·84	26·26
Aberlour,	,,	1·73	2·13	1·58	1·73	2·91	4·30	3·00	2·20	1·05	5·80	1·55	1·85	29·83
Dufftown,	,,	1·80	2·41	1·93	2·43	3·41	5·38	3·22	3·40	·96	5·49	1·95	1·97	34·35
Keith,	,,	2·05	1·66	1·46	2·21	2·98	6·56	3·39	3·20	1·05	5·78	1·81	1·98	34·13
Coldstone Sc'lhouse,	Aberdeen,	1·93	1·79	1·39	2·56	5·58	4·28	1·89	2·66	1·09	4·41	1·64	2·77	31·99
Braemar,	,,	1·61	2·36	1·72	3·69	3·73	2·69	1·65	3·35	·96	4·06	3·15	2·56	31·53
Alford, Lynturk Manse,	,,	1·50	1·61	1·24	2·38	4·55	3·96	2·30	2·71	1·16	5·53	2·36	3·63	32·93
Ellon,	,,	2·01	1·51	1·47	1·52	2·99	3·74	1 94	3·03	1·21	4·92	1·98	3·05	29·37
Aberdeen, King's College,	,,	1·63	1·54	1·32	1·35	3·48	3·78	1·40	2·27	1·23	5·07	2·13	3·48	28·68
New Deer,	,,	1·97	1·71	1·37	2·08	2·16	4·85	2·01	3·46	1·18	6·11	2·42	2·73	32·05
Cranford,	,,	1·89	1·87	1·53	1·59	4·36	3·72	1·88	2·55	1·21	6·01	2·49	3·77	32·87

* In Argyllshire.

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1907—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Johnston Lodge, .	Kincardine, .	2·02	1·17	1·61	1·29	7·16	5·86	2·74	4·81	·50	5·35	·34	1·87	34·72
The Burn, . .	,, .	1·10	2·07	1·74	2·73	7·30	4·47	2·17	3·33	1·18	3·91	2·27	4·19	36·46
Arbroath W'rw'ks,	Forfar, . .	·88	·88	1·36	1·80	3·88	4·76	1·88	2·00	1·05	3·19	1·78	2·66	26·12
Brechin, . .	,, . .	·73	1·22	1·46	2·72	6·75	4·32	2·26	3·05	1·26	3·95	2·22	3·70	33·64
Forfar, . . .	,, . .	1·55	1·66	1·46	3·34	4·46	4·55	2·61	2·95	·92	4·91	2·31	3·98	34·70
Buddon Ness, .	,, . .	·77	1·14	1·60	1·86	4·69	3·66	2·14	2·96	1·19	4·83	1·64	3·07	29·55
Broughty Ferry, .	,, . .	·83	1·04	1·60	1·88	4·00	4·01	2·17	3·45	1·34	5·80	1·02	3·35	30·49
Dundee Waterw'ks—														
Hillhead, . .	,, . .	1·37	1·17	1·80	2·52	5·62	4·87	2·28	3·78	1·31	5·39	1·85	3·52	35·48
Crombie, . .	,, . .	1·70	1·44	1·90	2·59	6·04	5·86	2·50	4·20	1·34	5·95	2·15	3·84	39·51
Craigton, . .	,, . .	1·28	1·01	1·75	2·36	5·41	4·81	2·21	3·95	1·24	5·47	2·37	3·37	35·23
Balnakeilly, .	,, . .	2·50	2·40	1·40	3·00	4·00	4·80	2·10	3·90	1·00	4·30	2·10	3·80	35·30
Creich Hill, .	,, . .	2·20	2·30	1·30	2·30	4·40	4·30	2·20	3·60	1·20	4·50	2·40	2·50	33·20
Lintrathen, .	,, . .	2·00	2·20	1·80	2·80	4·20	5·10	2·50	3·80	1·00	4·30	2·40	4·30	36·40
Glendamff, .	,, . .	1·50	1·40	2 20	3·70	5·50	4·80	3·20	4·90	1·10	4·70	2·60	5·00	40·60
Barney, . .	,, . .	1·70	2·10	1·70	3·50	4·60	4·40	2·70	4·10	1·40	4·60	2·40	4·30	37·50
Longdrum, .	,, . .	2·70	2·20	2·50	3·70	4·20	6·50	2·30	4·20	1·40	5·30	3·00	4·80	42·80
Glendye, . .	,, . .	[3·40]		3·20	4·20	4·50	8·10	2·50	5·10	1·50	5·40	3·20	5·30	46·40
Pearsie, . .	,, . .	...	2·47	1·87	3·44	5·29	6·04	2·51	3·92	1·41	4·26	2·54	4·79	...
Rannoch Station,	Perth, . .	2·99	4·82	5·12	2·33	4·93	4·71	2·33	7·52	1·54	3·11	3·85	5·72	48·97
Blair-Atholl, .	,, . .	2·46	3·47	2·20	3·31	2·90	3·25	1·66	4·06	1·13	2·75	2·15	3·26	32·60
Coupar-Angus, .	,, . .	1·16	1·26	1·73	1·96	3·34	3·75	2·36	3·78	·76	4·80	1·85	3·83	30·58
Blaircreach, .	,, . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Ardvorlich, . .	,, . .	2·51	5·08	4·96	4·77	7·70	5·17	2·75	5·83	1·29	6·37	6·94	9·28	62·65
Clathick, . .	,, . .	2·30	2·83	2·88	2·57	3·95	4·70	2·57	5·02	1·43	4·92	3·58	5·60	42·35
Glasgow Wat'w'ks—														
Glengyle,* .	,, . .	3·80	4·50	5·10	4·70	5·90	7·40	3·50	13·30	2·80	3·00	6·50	8·30	68·80
Hill above Tunnel at Loch Katrine.	,, . .	7·40	8·00	7·20	4·30	7·00	7·20	2·90	8·40	3·10	5·20	6·70	11·30	78·70
Ledard, . .	,, . .	2·20	2·60	3·30	3·45	5·40	7·85	4·30	9·25	2·30	5·20	3·45	6·80	56·10
Loch Dhu, .	,, . .	6·60	7·90	8·00	4·90	7·00	7·80	2·90	9·70	2·30	5·60	7·70	10·20	80·60
Duchray Head,*	,, . .	7·50	9·40	8·20	7·70	10·00	12·60	5·50	17·40	5·50	8·50	9·50	13·00	114·80
Bet. Glen Finlas and Ben Ledi,	,, . .	1·00	2·80	2·80	2·70	5·00	5·60	3·25	7·75	2·80	5·00	3·15	4·90	46·75
Brig o' Turk, .	,, . .	3·45	6·75	5·35	3·05	6·15	5·90	3·20	7·50	2·05	4·15	4·80	8·60	60·95
Loch Drunkie, .	,, . .	4·60	7·85	6·05	2·75	6·10	6·00	3·00	7·60	2·50	4·50	4·85	8·05	63·85
Loch Vennachar,	,, . .	2·80	4·80	4·40	2·50	4·90	5·80	3·00	7·15	2·10	3·90	2·90	7·70	51·95
Aberfoyle, . .	,, . .	3·75	4·85	5·00	3·00	5·05	5·10	3·10	6·75	2·15	4·10	4·55	7·20	54·60
Corriehichon,* .	,, . .	6·50	8·70	7·90	4·60	8·40	7·30	3·20	11·00	3·20	6·20	6·70	11·00	84·70
Corrie-Arklet,*	,, . .	7·90	9·20	8·10	4·80	8·40	7·40	3·50	11·30	3·30	6·20	6·70	10·20	87·00
Leny, . . .	,, . .	4·50	7·20	5·50	2·70	5·20	6·50	2·70	7·40	2·10	4·90	4·10	9·10	61·90
Doune, . . .	,, . .	2·28	2·85	3·45	2·21	3·99	4·80	3·67	5·62	1·54	5·49	2·51	5·14	43·55
,, Gartincaber,	,, . .	2·52	2·67	4·03	2·18	4·06	4·80	3·08	6·15	1·71	5·28	2·67	5·50	44·65
,, Cauldhame,	,, . .	3 12	4·94	4·11	2·91	4·22	5·51	3·18	6·69	2·33	6·45	3·02	6·57	53·05
Net'r Cambushinnie,	,, . .	2·59	4·01	3·76	3·02	4·57	5·75	4·36	5·79	1·56	6·61	2·60	6·08	50·70
Lynns, . . .	,, . .	2·32	2·83	3·20	2·58	3·88	4·82	3·26	4·30	1·32	6·72	2·55	4·63	42·41
Kippenross, . .	,, . .	2·10	2·60	3·20	1·20	4·60	4·20	3·55	4·65	1·30	6·75	2·80	5·25	42·20
Kippendavie, .	,, . .	3·49	3·75	4·14	3·28	4·35	6·09	4·45	5·71	1·74	8·54	3·65	6·06	55·25
Glensherup, . .	,, . .	4·00	5·59	4·00	2·75	4·80	6·00	2·61	4·37	1·38	8·17	4·25	5·50	53·42
Bridge of Earn, .	,, . .	·45	1·90	1·80	1·75	4·50	3·73	2·25	3·58	·80	6·73	1·87	4·73	34·09
Abernethy, Ayton,	,, . .	·78	2·16	2·17	1·77	4·26	3·41	1·76	3·50	·60	6·12	2·35	4·70	33·58
Cambo, Crail, .	Fife, . .	·88	1·38	1·88	1·37	3·79	3·47	2·24	3·20	·63	5·58	2·35	2·94	29·71
Tayport Low Light.,	,, . .	·88	·98	1·48	1·90	4·54	4·48	2·36	3·69	1·45	5·79	1·50	3·75	32·80
Mountquhanie, .	,, . .	·49	1·08	1·80	1·84	4·50	3·80	1·79	3·51	1·30	6·50	2·10	4·60	33·31
Balcarres, . .	,, . .	1·03	1·21	2·38	1·60	4·06	3·89	2·50	3·55	1·29	7·06	1·77	3·76	34·10
Colinsburgh, Gilston	,, . .	·68	1·49	2·08	1·99	4·96	4·26	2·92	3·95	1·32	7·68	1·97	4·29	37·59
,, Manse,	,, . .	·95	1·15	2·13	1·56	3·98	3·78	2·36	3·42	1·05	6·26	1·76	3·51	31·91
Lothrie Reservoir,	,, . .	1·14	1·34	2·20	1·66	4·96	4·73	2·32	3·98	1·52	7·51	2·56	3·79	37·71
Craigluscar, . . .	,, . .	2·50	2·25	3·50	1·55	3·70	4·50	4·50	4·70	1·90	7·80	2·10	4·45	43·45
Keavil, . . .	,, . .	1·43	1·71	2·53	·72	2·63	3·59	2·56	3·69	1·11	4·74	1·81	3·78	30·30
Outh, . . .	,, . .	1·51	2·07	1·95	1·76	3·19	4·66	2·57	4·82	1·52	6·52	1·16	5·51	37·24
Clatto Reservoir,	,, . .	1 20	1·18	1·71	1·59	3·44	4·33	2·96	3·68	1·22	7·21	1·67	3·50	33·69
Luscar, Gauge I.,	,, . .	1·83	1·78	3·17	·95	3·52	4·07	3·28	5·04	1·09	7·55	2·29	4·25	38·82
,, ,, II.,	,, . .	1·76	1·73	3·09	·92	3·47	4·04	3·22	4·94	1·06	7·48	2·22	4·20	38·13
St. Andrews, South Street,	,, . .	1·09	1·35	1·75	1·86	4·87	3·11	2·21	3·65	1·09	6·11	2·61	3·55	33·25
,, Waterworks,	,, . .	1·23	1·28	1·54	1·60	4·72	2·84	1·86	3·63	1·02	5·84	2·58	3·43	31·57
Dollar, . . .	Clackmannan,	2·76	3·67	4·22	1·60	4·66	6·27	3·19	5·57	2·02	7·10	2·56	6·58	50·20
Alloa, . . .	,,	1·37	1·99	2·02	1·19	3·46	4·05	1·88	4·33	·93	4·92	1·76	4·35	32·25

* In Stirlingshire.

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1907—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Loch Leven Sluices.	Kinross, .	2·44	2·40	3·19	1·51	3·69	5·14	2·50	4·16	1·33	6·77	2·67	4·64	40·44
Blairingone, . .	,, .	2·66	3·24	3·70	1·46	3·64	5 21	3·45	5·48	1·91	6·76	2·28	5·35	45·14
Auchenbowie, .	Stirling, .	3·00	4·20	4·80	1·60	5·10	5·85	3·30	6·90	1·70	5·80	3·00	7·90	53·15
Bridge of Allan, .	,, .	2·07	2·08	3·38	1·28	4·18	4·29	2·72	4·46	1·28	5·68	2·56	5·22	39·20
Korse, No. I., .	,, .	1·40	3·60	3·00	1·30	4·00	3·80	2·20	4·20	1·00	5·20	1·90	5·00	36·60
,, No. II., .	,, .	1·43	3·26	2·88	1·15	4·16	3·90	2·13	3·94	1·50	5·30	1·91	5·12	36·68
Polmaise, . .	,, .	1·55	2·67	3·10	1·55	4·68	5·55	2·38	4·85	1·15	4·70	2·25	6·05	40·48
Touch Reservoir,	,, .	3·45	3·40	4·35	2·18	6·12	6·29	3·04	6·54	1·89	6·44	3·15	7·37	54·22
Mugdock ,,	,, .	3·15	4·00	5·80	2·35	4·90	5·15	3·45	7·55	2·40	5·95	4·00	7·10	55·80
Killearn, . .	,, .	3·59	4·35	5·36	3·44	5·89	4·64	2·78	5·00	1·96	5·99	4·00	8·56	55·56
Currymire, . .	,, .	3·76	3·75	5·89	1·99	3·20	4·80	3·31	7·04	2·00	8·28	2·87	8·19	55·08
Falkirk, Cauldhame,	,, .	2·26	2·81	3·21	1·61	3·90	4·45	1·96	4·45	1·36	6·11	1·63	5·55	39·30
,, Burgh B'gs,	,, .	1·84	2·66	4·57	1·72	4·11	4·36	2·27	4·46	1·31	6·52	1·62	5·25	40·69
,, West Bank,	,, .	2·50	3·20	3·58	1·66	4·07	4·28	2·20	4·21	1·19	6·46	1·79	5·91	41·05
,, Laurieston,	,, .	2·48	3·22	3·61	1·57	4·42	4·51	2·50	4·67	1·18	7·28	1·73	4·90	42·07
Arrochar House, .	Dumbarton, .	7·60	9·15	9·40	6·80	7·20	7·50	2·95	10·85	2·90	6·40	8·70	10·05	89·50
Roseneath, Achnashie	,, .	5·70	5·20	6·80	3·05	5·00	5·25	2·65	8·40	2·20	5·45	6·00	7·75	63·45
Glenborrodale .	Argyll, . .	5·15	6·15	6·18	4·07	4·63	4·60	3·46	9·69	2·25	4·34	8·33	7·53	66·38
Quinish, Mull,	,, . .	4·59	4·52	5·06	3·54	3·74	3·48	2·83	7·99	1·79	3·80	6·70	7·02	55·06
Kinlochspelvie ,,	,, . .	8·73	8·45	8·02	4·28	7·44	8·32	4·69	15·51	4·17	5·74	12·27	9·82	97·44
Ardbeg, Islay, .	,, . .	3·91	4·07	5·84	2·66	4·78	5·56	2·90	5·61	1·83	4·49	3·97	5·46	51·08
Eallabus, ,, .	,, . .	3·62	4·97	5·34	3·54	4·29	4·22	3·72	6·59	2·61	5 00	5·82	6·08	55·80
Eriska, . . .	,, . .	5·67	5·87	5·10	3·03	4·48	6·36	3·14	10·00	2·76	3·52	5·31	6·68	61·92
Laudale, . .	,, . .	7·61	9·13	6·27	5·40	5·85	6·09	2·78	10·70	2·19	3·97	8·47	8·38	76·84
Ballachulish House,	,, . .	7·52	9·78	8·09	4·39	7·56	7·33	3·70	9·84	3·15	4·68	9·47	11·29	86·70
Drimnin, . .	,, . .	5·17	5·39	4·92	3·60	3·48	4·81	3·49	8·98	2·08	3·37	7·20	7·91	60·35
Lochgoilhead, .	,, . .	7·59	7·30	7·66	4·75	7·07	6·99	3·25	8·79	2·43	5·29	6·34	8·20	75·66
Inveraray, Newtown	,, . .	6·65	7·87	7·81	4·87	4·96	6·46	3·56	9·97	2·88	4·15	6·95	8·72	74·85
Ardrishaig Canal Of.,	,, . .	4·89	6·88	7·06	3·84	6·38	6·00	4·37	8·48	2·47	5·62	5·98	8·22	70·19
Campbeltown, The Rectory,	,, . .	2·97	3·80	4·90	2·96	6·77	4·33	3·24	5·93	1·75	6·50	5·60	6·41	55·16
,, Witchburn,	,, . .	2·55	2·75	4·81	2·81	5·91	4·34	3·00	5·55	1·65	6·21	4·99	5·57	50·14
Largie Castle, .	,, . .	1·92	3·27	4·86	3·13	3·62	4·62	2·79	4·84	1·69	5·35	3·07	6·96	46·12
Dunoon, . .	,, . .	7·57	6·59	9·29	3·89	5·78	7·03	[13	46]	2·87	7·09	6·78	10·30	80·15
Tighnabruaich, .	,, . .	4·10	4·64	6·72	2·61	4·63	6·02	5·01	6·48	3·58	7·31	5·76	7·51	64·37
Glenreasdell Mains,	,, . .	2·67	2·92	4·95	2·45	4·63	4·40	2·98	6·13	1·83	6·51	6·10	7·58	53·15
Waulk Glen Res.,	Renfrew, .	3·95	4·25	5·90	2·80	5·25	4·10	3·60	5·50	1·50	7·35	3·60	7·30	55·10
Ryatt Linn ,,	,, .	4·10	4·40	6·05	2·90	5·40	4·20	3·70	6·10	1·60	7·50	3·75	7·45	57·15
Middleton, . .	,, .	5·40	5·60	7·25	3·70	6·75	5·60	3·90	6·45	1·80	8·65	4·45	8·40	67·95
Black Loch, . .	,, .	6·00	5·80	7·60	3·90	6·90	5·80	3·90	6·50	1·90	8·85	4·50	8·50	70·15
Castle Semple, .	,, .	3·39	3·09	6·07	2·40	4·44	3·67	3·09	6·76	1·27	7·02	3·82	6·72	51·74
Kilmalcolm, St. Oswald's,	,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
,, Wat'w'ks,	,, .	...	...	...	...	...	...	...	...	...	...	...	...	...
Greenock Wat'w'ks.—														
Prospect Hill, .	,, .	4·61	5·72	6·28	4·03	6·27	5·41	2·59	7·56	2·01	5·99	5·44	9·09	65·00
New Yetts Dam,	,, .	4·66	4·48	5·96	4·51	7·29	5·70	3·05	7·94	2·36	7·24	5·69	10·13	69·01
Hole Glen, .	,, .	4·64	4·38	5·63	3·94	6·16	5·37	2·83	7·31	2·15	6·41	5·22	8·06	62·10
Spango Burn, .	,, .	5·10	6·20	6·60	4·80	6·50	6·30	3·20	9·00	2·20	7·50	6·70	9·30	73·40
Shielhill, . .	,, .	5·20	6·50	5·90	4·10	6·60	6·70	3·20	9·20	2·60	8·30	7·20	9·70	75·20
Comp'nsat'n Res.,	,, .	5·42	5·74	6·84	4·38	7·33	5·98	3·22	8·15	2·44	7·92	6·44	9·87	73·73
Loch Thom, .	,, .	5·28	5·21	6·30	4·92	7·56	6·11	3·13	8·17	2·37	8·07	6·40	9·60	73·12
Kelly Dam,* .	,, .	4·40	9·00	8·10	4·80	6·60	6·00	3·80	7·50	2·60	8·50	9·30	8·20	78·80
Knockencorsan,*	,, .	4·00	5·90	5·50	4·80	6·90	6·20	3·20	6·80	2·00	8·90	7·30	7·60	69·10
Largs Road, .	,, .	3·77	5·80	4·53	4·23	5·80	4·32	2·20	6·50	1·50	5·60	5·30	7·25	56·77
Creuch Hill, .	,, .	4·50	3·80	4·20	3·70	7·40	6·50	4·40	11·30	2·70	7·90	6·10	9·70	72·20
Duchall Moor, .	,, .	4·90	4·40	6·20	4·60	8·40	7·30	3·80	9·90	2·60	8·90	7·70	10·20	78·90
Green Water, .	,, .	4·80	5·20	5·70	4·50	8·30	6·40	3·30	8·90	2·30	7·60	6·30	9·60	72·90
Gryfe Reservoir,	,, .	5·10	5·60	6·10	4·00	7·80	5·70	3·10	8·00	2·10	7·30	5·90	9·50	70·20
Mansfield, .	,, .	4·01	5·36	5·58	3·81	7·47	5·51	3·00	7·74	2·10	7·55	5·50	9·33	66·96
Darndaff Moor, .	,, .	4·80	5·50	6·30	4·10	7·70	5·70	2·50	8·60	2·10	7·20	6·00	9·10	69·60
Paisley W'terw'ks—														
Stanely, . .	,, .	2·26	3·29	4·62	2·22	3·51	3·56	2·13	5·75	1·42	6·93	3·46	7·32	46·47
Back Thornley-muir, . .	,, .	2·18	3·49	4·95	2·24	3·42	4·56	2·24	6·65	1·92	7·61	4·20	8·45	51 91
Muirhead, . .	,, .	3·85	4·59	6·47	3·02	4·06	6·62	3·23	6·59	2·19	10·48	3·87	7·84	62·81
Springside, .	,, .	4·36	4·78	6·97	3·21	4·58	7·15	3·43	7·05	2·34	11·78	4·10	8·50	68·25
Paisley, Crookston House, . .	,, .	1·00	3·20	3·75	2·00	3·85	3·05	2·30	4·10	·80	6·20	2·60	6·50	39·35
Auchendores Res.,	,, .	3·55	3·43	4·40	2·70	4·75	4·74	2·46	5·90	1·40	5·34	3·78	6·90	49·35
Dougliehill Res., .	,, .	3·57	3·65	4·95	2·37	5·10	5·10	2·66	6·25	1·60	5·79	3·61	7·37	52·02

* In Ayrshire.

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1907—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Loch Finlas, .	Ayr, . .	3·23	4·48	6·27	5·47	5·88	5·44	2·56	6·27	1·40	9·78	5·93	6·56	63·27
Camphill, . .	" . .	3·55	3·45	6·05	3·10	5·35	3·25	3·10	9·60	2·75	8·05	6·00	9·20	63·45
Dalry, Blair, .	" . .	4·16	4·12	7·00	3·05	4·87	5·11	3·77	6·65	2·68	6·31	5·07	7·32	60·11
Pinmore, . .	" . .	3·09	3·27	4·44	4·27	4·66	6·75	3·21	5·88	1·72	8·49	6·40	5·49	57·67
Saltcoats, . .	" . .	2·53	3·11	5·11	2·36	4·18	4·46	2·82	4·51	1·82	6·59	3·45	6·02	46·96
Kilmarnock, North Craig, . .	" . .	3·00	3·70	4·80	2·70	3·60	4·10	3·20	5·40	1·60	7·00	3·90	4·80	47·80
Agricultural College,	" . .	2·12	2·90	3·92	2·71	3·34	3·00	2·35	4·05	1·26	6·24	3·66	4·91	40·46
Ayr, Doonside, .	" . .	2·30	2·72	4·30	2·87	3·59	4·97	2·30	4·18	1·05	7·28	3·69	4·59	43·74
" Doonholm, .	" . .	2·45	2·61	4·19	2·72	4·02	3·79	1·96	3·21	·68	6·72	3·49	4·27	40·11
Glendrishaig, .	" . .	2·12	2·50	3·95	2·69	3·80	2·95	2·05	3·36	·90	7·10	3·32	3·75	38·49
Maybole, Knockdon,	" . .	1·95	2·10	3·75	3·27	3·85	3·76	2·25	2·72	·80	7·30	3·08	4·48	39·31
" Culzean,	" . .	2·20	2·50	3·75	2·45	3·75	4·05	2·50	3·30	·85	6·40	3·95	4·30	40·00
Colmonell, . .	" . .	2·50	2·60	3·40	3·19	3·71	5·12	2·72	4·88	1·22	6·91	5·86	5·17	47·28
Glendoune, Girvan,	" . .	2·18	2·57	3·68	3·30	3·31	4·45	2·84	4·07	1·39	7·39	4·62	4·32	44·12
Glasgow C'p'ation—														
Queen's Park, .	Lanark, . .	1·86	2·68	3·94	2·38	4·08	4·04	2·80	4·65	1·25	6·66	2·31	5·58	42·23
Maxwell Park, .	" . .	1·79	1·95	3·67	1·93	3·12	4·12	3·21	5·16	1·50	6·71	2·39	5·67	41·22
Kelvingrove, .	" . .	2·52	3·01	4·03	1·73	3·49	3·97	3·26	4·54	1·30	6·63	2·07	4·99	41·54
Springburn Park,	" . .	3·02	2·59	4·48	1·02	3·22	4·32	3·00	5·39	1·00	5·67	1·80	4·17	39·68
Alexandra Park,	" . .	2·54	2·89	3·92	1·51	3·42	4·42	2·75	4·33	1·54	6·69	2·17	4·99	41·17
Glasgow Green,	" . .	2·94	3·51	4·27	1·75	3·60	4·35	3·40	4·94	1·42	6·99	2·30	5·24	44·71
Bellahouston Pk.,	" . .	2·05	2·04	3·78	1·72	3·57	4·05	3·00	4·39	1·28	6·31	2·07	4·91	39·12
Tollcross Park,	" . .	2·71	3·08	3·53	1·90	4·04	4·34	3·06	5·78	1·48	6·85	1·93	5·37	43·97
Ruchill Park, .	" . .	2·86	2·57	4·14	1·53	3·80	4·88	2·55	5·63	1·45	6·66	2·41	5·32	43·80
Botanic Gardens,	" . .	2·28	2·30	3·47	1·30	3·40	3·96	3·32	4·91	1·27	6·48	2·11	4·32	39·07
George Square,	" . .	2·27	2·16	3·86	1·14	3·23	3·98	3·38	4·88	1·32	5·89	2·23	5·01	38·80
Hamilton W'terw'ks														
Townhill, .	" . .	2·45	3·15	3·90	1·70	4·90	3·15	2·85	4·20	·85	6·90	2·10	5·20	41·35
Kype, . .	" . .	4·20	4·10	5·80	2·40	4·05	5·90	3·40	5·20	1·10	8·40	3·00	5·80	53·35
Mauldslie Castle, .	" . .	2·15	2·63	3·81	1·57	3·18	3·60	2·57	4·12	1·04	7·61	1·61	4·29	38·18
Lamington, . .	" . .	2·40	2·55	3·77	2·42	3·36	3·62	3·20	4·24	·85	9·44	2·97	4·29	43·11
Cowgill Reservoir,	" . .	2·59	2·79	3·81	3·03	4·23	3·85	3·02	5·35	·97	10·00	3·13	4·69	47·46
Cambus Wallace, .	" . .	1·30	1·32	2·02	1·32	2·75	3·05	3·15	3·30	·90	7·32	2·80	3·40	32·63
Lanark Rhyber L'ge,	" . .	2·00	2·20	3·00	1·40	3·00	3·30	3·00	3·70	·90	6·80	1·90	3·80	35·00
Cleghorn, . .	" . .	2·46	2·58	3·29	1·78	3·45	4·41	3·40	4·14	1·08	7·79	1·98	4·77	41·03
Hillend Reservoir,	" . .	3·06	2·83	3·53	1·39	3·41	4·28	2·69	5·04	1·38	8·11	2·12	4·53	42·37
Roughrigg "	" . .	2·42	2·62	3·32	1·77	3·87	3·79	2·94	4·93	1·11	9·02	1·93	4·61	42·33
Thornton Hall, .	" . .	2·39	2·81	4·99	2·10	3·74	3·91	1·53	3·79	·91	7·65	2·81	5·70	42·33
Polkemmet, . .	Linlithgow, .	4·07	3·99	4·94	1·88	4·66	4·60	3·55	6·00	1·33	9·59	2·51	5·96	53·08
Boghead, . .	" .	3·25	3·00	4·16	1·59	4·25	4·28	3·45	5·88	1·21	9·81	1·92	4·86	47·16
Linlithgo' Academy,	" .	1·79	2·50	2·86	1·41	4·41	3·53	2·53	4·86	1·00	7·56	1·48	4·64	38·57
Bo'ness, Grange, .	" .	1·28	1·96	2·36	1·06	2·77	3·86	2·56	3·92	1·04	6·42	1·29	3·72	32·24
Carriber Reservoir,	" .	1·79	2·37	2·75	1·58	3·20	3·79	2·30	4·61	·88	7·97	1·55	3·92	36·71
Uphall, . .	" .	1·80	2·36	3·31	1·47	3·68	3·31	2·50	4·35	·97	8·84	1·47	4·31	38·37
Addiewell, . .	Edinburgh, .	2·54	2·51	3·06	1·50	4·26	3·87	3·83	4·53	·84	9·05	1·77	4·49	42·25
Edin. Waterworks—														
Portmore, . .	" .	2·04	1·67	2·28	2·10	2·87	3·64	3·17	4·28	1·54	9·60	2·87	3·67	39·18
Bowbate, . .	" .	3·35	3·60	3·17	3·20	4·65	4·45	3·25	5·12	2·05	11·60	2·95	6·10	53·49
Gladhouse, .	" .	2·00	1·95	2·52	2·18	3·33	3·61	3·10	4·14	1·62	9·37	2·09	4·09	40·00
Rosebery, . .	" .	1·62	1·92	2·08	1·78	2·88	3·14	3·10	3·50	1·88	7·96	1·72	3·77	34·70
Glencorse, . .	" .	1·56	2·34	2·62	1·69	3·65	3·94	3·11	4·42	1·61	10·43	2·01	5·43	42·81
Loganlea, . .	" .	1·85	2·54	2·93	1·52	3·80	3·71	3·27	3·93	1·50	10·85	1·79	5·53	43·22
Harehill, . .	" .	1·74	2·04	2·53	1·81	4·00	4·20	3·60	4·10	1·70	9·95	1·80	4·75	42·22
Harbour Hill, .	" .	2·00	2·10	3·00	1·90	4·00	3·00	3·30	4·80	1·55	11·50	1·62	4·50	43·27
Clubbiedean, .	" .	1·20	1·50	2·00	1·50	3·70	2·43	3·25	4·10	1·39	11·68	1·60	4·42	38·77
Harlaw, . .	" .	1·55	1·49	2·53	1·43	3·24	2·74	2·76	4·05	1·37	10·88	1·55	4·73	38·32
Harperrig, .	" .	2·24	2·04	2·05	1·91	3·54	3·67	3·59	4·49	1·65	10·47	2·14	4·84	42·63
Crosswood, .	" .	2·70	2·51	3·19	1·86	3·57	3·86	3·17	5·00	1·40	9·29	2·10	5·11	43·76
Alnwick Hill, .	" .	1·15	1·31	2·07	·94	2·76	3·37	2·78	3·41	1·44	8·44	1·28	4·34	33·29
Swanston, . .	" .	·94	1·14	1·79	1·08	2·78	2·88	2·75	3·70	1·49	9·60	1·47	4·25	33·87
Edgelaw, . .	" .	1·93	2·23	2·50	1·66	3·05	3·37	3·14	3·76	1·57	8·62	1·82	4·07	37·72
Cramond Bridge, Craigiehall, .	" .	1·20	1·91	2·55	1·45	3·40	3·00	3·30	3·63	1·37	9·22	1·33	3·36	35·72
Davidson's Mains, Broomfield, .	" .	1·02	1·32	1·78	1·26	2·42	2·48	2·68	3·49	1·10	7·66	1·21	3·28	29·60
Leith, . . .	" .	·91	·98	1·78	1·28	2·76	2·57	2·75	4·07	1·77	7·21	·96	3·70	30·74
Edinburgh—														
City Observatory,	" .	·64	·72	1·46	·92	2·65	2·60	2·84	3·01	1·50	6·60	·86	3·42	27·22
Charlotte Square,	" .	·60	1·04	2·00	1·55	2·98	2·80	3·15	4·40	1·06	7·58	·98	3·48	31·47
George Square,	" .	·51	·86	1·65	1·01	2·26	2·92	2·83	3·80	2·16	7·25	·78	3·56	29·59
Streatham House,	"	·80	1·30	2·20	1·40	3·10	2·90	3·00	4·50	1·30	9·10	1·30	4·40	35·30
University, I., .	" .	1·05	·97	1·82	1·32	3·05	2·65	3·01	4·81	1·33	7·76	1·15	3·31	32·23
" II.,	"	1·03	1·04	1·79	1·28	3·06	2·65	3·35	4·26	1·34	7·62	1·04	3·80	32·26

ADDITIONAL RETURNS OF RAINFALL IN SCOTLAND DURING 1907—*continued.*

STATIONS.	County.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Aberlady, . .	Haddington, .	·67	·96	1·33	1·45	2·64	2·52	2·76	3·23	1·48	6·91	1·58	3·80	29·33
No. Berwick Res.,	,, .	·51	·82	1·30	1·60	2·85	3·05	2·19	3·00	1·19	6·54	1·85	3·90	28·80
Donolly Reservoir,	,, .	·72	1·32	2·11	2·30	2·31	2·97	3·03	2·52	1·81	9·34	2·71	4·02	35·16
Whittingehame, .	,, .	·64	1·24	1·50	1·94	3·25	3·08	2·83	2·99	1·62	9·08	2·28	3·56	34·01
Beil, . . .	,, .	·53	·87	1·06	1·54	2·43	3·46	2·13	2·40	1·24	6·58	1·72	3·08	27·04
The Hangingshaw,	Selkirk, . .	·42	2·30	2·56	2·63	3·91	2·79	2·35	4·51	·93	6·42	2·42	4·65	35·89
Clovenfords, .	,, . .	1·30	1·66	2·45	2·48	3·95	3·88	3·43	5·04	·93	6·42	2·60	5·18	39·32
Talla Waterworks— Meggat Head, No. 1	,, . .	1·30	2·15	4·48	3·20	5·45	5·88	3·98	6·00	·60	8·48	4·40	4·97	50·89
Galashiels, .	,, . .	1·03	2·08	2·54	2·14	3·20	3·86	2·33	3·31	·87	5·08	1·93	3·91	32·28
North Esk Res., .	Peebles, .	2·45	3·10	4·50	2·25	3·30	3·45	3·35	4·85	1·45	9·00	1·80	3·50	43·00
West Linton, .	,, .	2·53	2·66	3·67	2·06	3·42	2·98	3·05	5·07	1·36	8·97	2·52	4·83	43·12
Stobo Castle, .	,, .	1·50	2·39	2·96	2·09	3·37	3·29	2·99	4·12	·71	6·47	2·22	4·41	36·52
P'bles, Swinton B'k.,	,, .	1·96	1·86	2·12	1·70	2·91	3·47	2·90	3·24	1·19	7·27	1·90	3·17	33·69
Talla Waterworks— Loch Craig Head, No. 2, . .	,, .	1·99	2·93	3·20	2·20	4·90	8·43	4·35	7·53	1·35	11·80	5·47	7·04	61·19
Ravenscraig, No. 3,	,, .	2·20	3·57	5·25	3·35	7·00	11·18	5·50	9·61	·98	14·00	6·21	8·00	77·15
Gameshope Loch, No. 4, . .	,, .	1·80	2·93	5·12	3·38	7·19	8·91	4·74	7·80	1·20	13·40	6·19	7·99	70·65
Gameshope Farm, No. 5A, . .	,, .	2·79	4·32	6·69	4·14	8·15	8·90	4·36	7·73	1·13	12·81	6·77	8·35	76·14
,, No. 5,	,, .	2·15	3·42	5·69	3·85	7·00	7·81	4·21	7·00	1·00	12·10	6·16	7·38	67·77
Talla Linns Foot, No. 6A, . .	,, .	2·36	4·02	4·88	3·90	6·71	6·19	4·40	6·39	·90	11·11	4·98	7·25	63·09
,, No. 6,	,, .	2·26	3·79	4·69	3·80	6·56	6·07	4·30	6·32	·90	10·98	4·93	7·20	61·80
Quarter Hill, No. 7A, . .	,, .	1·90	3·29	4·44	2·85	4·99	4·85	3·55	6·20	1·08	8·60	3·64	4·92	50·31
,, No. 7,	,, .	1·77	3·08	4·13	3·00	4·95	4·53	3·55	6·09	1·05	8·50	3·59	4·82	49·06
Victoria Lodge— Daily, . .	,, .	2·04	3·05	4·20	2·70	4·41	4·22	3·42	5·42	·86	9·22	3·51	4·66	47·71
Monthly, . .	,, .	1·66	2·77	3·83	2·67	4·37	3·79	3·35	5·26	·93	8·85	3·27	4·58	45·33
The Hirsel, . .	Berwick, .	1·73	1·21	1·20	1·46	2·78	3·91	2·08	2·02	·66	5·94	2·93	2·36	28·28
Cowdenknowes, .	,, .	·99	1·67	2·20	2·13	3·65	3·41	2·48	3·68	·78	5·82	2·38	3·83	33·02
West Foulden, .	,, .	·58	1·30	1·03	1·60	2·66	4·14	1·48	2·04	·85	5·50	1·89	2·47	25·54
Elliston, . .	Roxburgh, .	·78	1·31	1·92	2·24	4·01	3·96	2·98	2·87	·86	4·97	2·09	3·40	31·39
St. Boswells, Fens,	,, .	·86	·93	1·09	1·83	3·24	4·09	2·44	2·60	·76	5·37	1·93	3·04	28·18
Lilliesleaf, . .	,, .	1·04	1·09	...	...	...	...	...	...	...	...	...	...	...
Springwood Park,	,, .	1·12	·96	1·36	2·02	3·42	3·53	2·65	2·87	·84	6·00	1·82	2·79	29·38
Branxholm, . .	,, .	·93	1·98	2·66	2·30	4·16	4·30	2·68	3·76	·55	5·08	2·26	4·39	35·05
Monksford, St. Boswells, . .	,, .	·65	1·26	1·47	1·68	3·11	3·37	2·10	2·77	·68	4·79	1·85	3·03	26·76
Melrose Asylum, I.,	,, .	1·16	1·74	2·37	2·16	3·89	4·19	3·26	2·84	·73	5·22	2·34	4·45	34·35
,, II.,	,, .	·77	1·21	1·88	2·01	3·62	3·79	3·25	2·66	·69	4·67	1·98	3·81	30·34
Ewes, . . .	Dumfries, .	2·62	3·28	5·67	3·04	5·47	7·35	3·19	6·53	·92	6·94	3·50	7·43	55·94
Langholm, Burnfoot,	,, .	2·39	3·23	5·05	2·54	5·59	7·62	3·99	6·00	1·08	7·25	3·75	7·70	56·19
,, Drove Road,	,, .	2·46	3·28	5·28	2·84	5·64	7·68	2·76	7·57	1·05	7·34	4·19	7·03	57·12
,, Westwater,	,, .	[5·26]		5·63	3·70	4·58	8·20	3·57	6·58	1·15	6·45	4·83	6·52	56·47
Byreburnfoot, .	,, .	1·88	2·12	4·25	2·50	4·75	7·88	1·50	5·25	·50	7·00	3·75	6·50	47·88
Ericstane, . .	,, .	2·83	4·25	5·24	3·24	5·29	5·03	3·06	5·64	·75	8·99	2·95	5·86	53·13
Moffat, Hope Lodge,	,, .	2·31	3·68	4·08	2·16	4·39	5·23	4·38	5·57	·80	7·64	4·22	5·50	49·96
,, Craigielands,	,, .	2·77	4·85	5·62	2·67	5·89	6·23	3·46	5·03	·79	7·43	4·97	6·09	55·80
Lockerbie, Castle Milk, . .	,, .	1·90	3·00	3·80	2·80	4·93	7·62	2·50	5·50	·88	8·10	3·37	6·11	50·51
Lochmaben, . .	,, .	1·93	2·55	3·77	2·72	5·08	6·34	2·93	4·79	·60	7·72	3·16	6·19	47·78
Maxwelton House,	,, .	2·27	3·21	4·48	2·67	5·37	5·01	1·85	5·10	1·05	8·32	3·71	6·19	49·23
Glencrosh, . .	,, .	3·11	4·02	5·62	3·06	5·55	5·22	2·77	5·64	1·00	9·14	4·05	5·87	55·05
Dumfries, W.W.,	Kirkcudbright,	...	3·47	4·45	2·94	4·92	6·71	2·28	5·29	1·09	8·48	4·09	5·96	...
Jardington, . .	,,	2·45	3·10	3·65	2·42	3·57	5·91	2·22	4·59	·65	7·13	3·24	5·10	44·03
Arbigland . .	,,	...	...	...	...	...	...	...	4·45	·89	8·31	3·76	6·96	...
Dalbeattie, Richorn,	,,	1·42	2·89	3·56	3·23	3·96	6·66	2·47	5·34	1·53	8·46	3·75	5·82	49·09
,, Kirkennan,	,,	2·39	3·35	4·66	3·19	4·31	7·17	2·63	6·01	1·43	8·84	4·31	6·26	54·55
Glenlair, . .	,,	2·72	3·89	5·03	3·45	4·96	6·45	3·04	5·61	1·08	9·12	4·01	7·08	56·44
New Galloway, Craigencallie .	,,	5·32	5·23	8·43	4·87	6·57	8·78	4·29	9·59	4·92	11·66	6·90	7·62	84·18
Old Garroch, .	,,	4·41	5·03	6·81	4·08	6·08	5·91	2·77	6·93	1·06	10·08	5·53	7·66	66·35
Auchencairn, .	,,	2·67	4·08	5·11	3·32	4·48	7·84	3·33	6·23	1·52	8·35	4·62	6·92	58·47
Ardwell House, .	Wigtown, .	1·96	1·75	3·41	2·55	4·18	5·74	2·42	4·33	1·37	6·54	5·40	4·28	43·93
Logan, . . .	,, .	...	...	...	...	...	...	...	...	...	7·13	5·04	3·91	...
Galloway House, .	,, .	2·25	3·05	3·62	2·77	3·37	5·57	1·62	4·59	1·32	8·32	4·09	5·48	46·05
Whithorn, Cutroach,	,, .	1·90	2·41	3·74	2·40	4·20	5·50	1·93	4·12	·97	8·96	4·75	4·88	45·76
Port William, Blairbuie, . .	,, .	1·90	2·32	3·53	3·12	3·90	6·04	2·44	5·54	1·47	8·25	3·98	5·12	47·61
Douglas, . .	Isle of Man, .	1·91	2·72	3·67	2·90	3·49	4·93	1·84	4·48	1·03	7·09	4·16	5·77	43·99

9. RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

JANUARY–MARCH 1907.

	HEIGHT.	Mean Temperature.	DIRECTION OF WIND.								Calm or Variable.	Gales and Storms.	RAIN.		Fog.
			N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
JANUARY.	Feet.	°										Days		Inches.	Hrs.
St. Abb's Head	224	38·9	8	0	4	0	1	23	24	2	0	1	...	0·34	1
Isle of May	240	39·0	6	1	0	1	5	6	39	4	0	2	6	0·86	26
Bell Rock	93	38·8	5	0	1	3	3	22	24	4	0	1	...	...	5
Kinnairdhead	120	38·2	9	1	0	0	11	14	10	17	0	6	16	1·45	8
Tarbetness	175	38·8	7	2	0	0	2	13	20	18	0	3	16	1·82	15
Pentland Skerries	170	40·3	8	2	2	4	11	16	9	10	0	4	18	4·40	0
Hoy Sound, Low	55	40·6	6	4	0	6	6	20	12	8	0	3	20	4·15	5
Start Point	80	40·2	6	4	0	5	12	14	11	9	0	5	18	4·49	2
Bressay Sound	105	40·1	11	1	1	3	12	11	13	10	0	8	25	7·30	14
Holbornhead	75	40·0	4	4	0	0	8	20	15	7	4	2	22	4·83	1
Cape Wrath	400	40·2	3	4	2	3	3	21	12	14	0	4	22	3·86	48
Butt of Lewis	170	40·8	8	4	0	2	10	20	12	6	0	3	24	7·69	2
Barrahead	683	40·1	7	1	0	0	16	19	13	5	1	0	16	2·15	152
Skerryvore	150	42·9	8	2	0	4	9	19	13	7	0	5	...	...	17
Rona	222	41·0	6	3	2	1	20	12	10	8	0	2	24	3·22	16
Ardnamurchan	180	42·3	7	1	3	9	11	12	16	3	0	2	19	4·65	18
Rhinns of Islay	150	42·4	2	3	2	6	10	11	13	14	1	3	19	1·50	4
Mull of Kintyre	297	41·4	3	2	3	7	11	9	12	15	0	3	16	4·80	5
Turnberry	96	41·6	0	3	3	8	24	3	13	8	0	2	14	...	0
Corsewall	112	42·0	4	2	3	5	10	14	14	10	0	2	14	2·45	0
Mull of Galloway	325	41·1	4	1	5	1	7	22	16	6	0	0	14	1·27	1
FEBRUARY.															
St. Abb's Head	224	36·6	3	1	1	2	4	21	17	7	0	2	...	1·61	2
Isle of May	240	37·6	6	3	0	1	2	6	34	4	0	1	6	0·52	60
Bell Rock	93	37·3	3	1	0	0	3	22	20	7	0	2	...	...	1
Kinnairdhead	120	37·8	7	2	0	0	2	20	8	17	0	3	15	1·44	1
Tarbetness	175	36·4	9	2	0	0	1	6	23	15	0	5	12	1·58	9
Pentland Skerries	170	37·6	11	1	1	0	15	16	7	5	0	2	12	1·51	9
Hoy Sound, Low	55	38·1	9	1	0	3	9	19	11	3	1	2	10	3·00	26
Start Point	80	38·2	10	0	0	0	13	16	12	5	0	3	7	2·67	9
Bressay Sound	105	39·4	10	1	0	0	9	18	10	7	1	2	15	4·50	17
Holbornhead	75	37·1	11	1	0	0	4	17	18	2	3	2	16	2·74	18
Cape Wrath	400	38·0	6	2	0	1	5	23	10	9	0	4	21	2·92	71
Butt of Lewis	170	38·5	9	0	0	1	11	18	10	7	0	2	19	3·57	6
Barrahead	683	37·6	10	0	0	0	13	15	16	2	0	0	15	2·02	69
Skerryvore	150	40·6	8	0	1	0	13	12	12	10	0	6	...	...	12
Rona	222	38·8	8	2	1	1	22	3	16	3	0	6	17	3·69	18
Ardnamurchan	180	39·8	6	1	0	7	9	17	11	5	0	2	14	4·49	17
Rhinns of Islay	150	40·5	7	6	0	3	7	13	9	9	2	5	15	3·72	12
Mull of Kintyre	297	39·4	8	4	0	3	17	4	8	12	0	3	12	2·80	0
Turnberry	96	39·7	5	2	6	5	12	13	6	7	0	3	11	...	0
Corsewall	112	39 9	6	3	1	9	10	8	11	8	0	3	9	2·35	2
Mull of Galloway	325	39·2	9	0	1	2	10	16	12	5	1	2	7	1·36	14
MARCH.															
St. Abb's Head	224	42·3	2	1	2	5	5	23	21	3	0	1	...	1·49	16
Isle of May	240	42·8	3	0	1	1	3	9	41	4	0	0	11	0·84	58
Bell Rock	93	41·1	0	1	1	4	14	15	23	4	0	0	...	...	17
Kinnairdhead	120	41·5	3	1	1	1	8	14	15	18	1	2	10	1·12	24
Tarbetness	175	41·5	2	0	1	2	1	14	21	20	1	1	13	0·83	9
Pentland Skerries	170	40·6	4	0	4	1	14	19	12	8	0	2	14	1·43	20
Hoy Sound, Low	55	41·9	1	2	2	6	4	19	18	9	1	1	10	2·50	11
Start Point	80	40·4	3	1	2	2	18	17	13	6	0	1	11	1·39	8
Bressay Sound	105	40·7	7	0	0	2	17	15	13	8	0	1	17	4·90	24
Holbornhead	75	41·3	3	1	1	3	7	20	14	6	6	0	19	2·41	7
Cape Wrath	400	40·0	3	0	0	4	7	31	6	11	0	1	17	1·92	19
Butt of Lewis	170	40·7	2	1	3	0	16	23	12	5	0	3	22	4·14	1
Barrahead	683	40·1	3	2	0	2	21	13	17	4	0	0	15	2·45	192
Skerryvore	150	42·9	3	1	2	3	10	20	10	13	0	5	...	...	18
Rona	222	41·6	2	0	2	2	32	7	6	11	0	0	21	2·83	10
Ardnamurchan	180	42·8	1	4	3	5	20	10	14	5	0	2	17	4·36	22
Rhinns of Islay	150	43·6	2	1	1	5	15	9	12	14	3	1	13	3·31	21
Mull of Kintyre	297	43·3	1	1	0	19	15	1	11	14	0	0	16	4·10	1
Turnberry	96	42·8	2	0	2	11	24	5	14	4	0	1	12	...	0
Corsewall	112	43·3	0	1	1	14	15	6	14	9	0	3	14	2·93	9
Mull of Galloway	325	42·7	1	0	1	3	15	20	14	6	2	2	12	2·59	31

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

April–June 1907.

	Height.	Mean Temperature.	Direction of Wind.								Calm or Variable.	Gales and Storms.	Rain.		Fog.
			N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
APRIL.	Feet.	°										Days		Inches.	Hrs.
St. Abb's Head	224	43·0	7	1	18	6	2	8	13	4	1	0	...	1·15	11
Isle of May	240	43·0	5	6	12	7	9	4	14	1	2	0	13	1·24	26
Bell Rock	93	42·6	2	6	17	9	4	8	11	3	0	0	...	...	17
Kinnaird Head	120	43·8	4	4	6	17	11	8	1	9	0	1	18	0·87	11
Tarbetness	175	43·2	3	6	2	24	1	4	10	10	0	1	17	0·92	2
Pentland Skerries	170	43·3	7	3	11	15	10	2	8	4	0	1	11	1·28	17
Hoy Sound, Low	55	42·6	7	3	9	20	3	4	10	3	1	0	10	1·95	7
Start Point	80	42·7	7	6	16	11	6	5	6	3	0	4	10	1·10	4
Bressay Sound	105	42·3	7	7	5	15	10	4	4	7	1	4	15	5·20	8
Holbornhead	75	43·7	5	2	3	28	5	4	11	2	5	0	18	1·72	0
Cape Wrath	400	41·9	3	3	20	7	4	10	7	6	0	2	17	1·26	4
Butt of Lewis	170	43·2	7	4	12	12	7	7	5	6	0	0	20	2·40	1
Barrahead	683	41·9	1	3	6	7	16	9	9	8	0	0	11	1·64	89
Skerryvore	150	44·9	6	5	9	9	10	8	5	8	0	1	...	...	10
Rona	222	44·0	10	3	11	8	11	5	7	5	0	0	15	1·88	0
Ardnamurchan	180	44·5	6	6	10	8	10	5	8	7	0	1	14	2·82	7
Rhinns of Islay	150	44·4	8	2	5	11	8	6	6	7	7	1	16	2·24	16
Mull of Kintyre	297	43·9	1	3	7	22	6	8	0	13	0	1	14	2·45	10
Turnberry	96	45·2	3	11	6	14	6	5	2	13	0	0	10	...	0
Corsewall	112	44·8	3	5	10	11	7	2	7	15	0	0	18	2·86	0
Mull of Galloway	325	43·7	7	3	13	7	7	8	6	7	2	0	14	1·88	17
MAY.															
St. Abb's Head	224	46·1	11	6	7	14	6	3	12	3	0	0	...	3·62	47
Isle of May	240	46·0	0	8	22	4	9	5	12	1	1	0	12	1·87	48
Bell Rock	93	45·8	4	21	9	7	5	9	6	1	0	0	....	...	15
Kinnairdhead	120	47·3	13	5	6	15	10	4	0	9	0	0	12	1·32	18
Tarbetness	175	46·1	9	5	11	19	8	3	3	3	1	1	13	1·47	33
Pentland Skerries	170	45·8	11	14	13	5	8	1	4	6	0	0	6	1·08	22
Hoy Sound, Low	55	46·2	11	13	5	18	1	4	6	3	1	0	9	1·58	12
Start Point	80	45·4	13	14	15	7	4	1	5	3	0	2	7	0·85	11
Bressay Sound	105	44·8	19	9	5	11	7	2	5	3	1	2	4	0·70	12
Holbornhead	75	46·9	8	7	11	15	8	2	8	3	0	0	13	1·80	0
Cape Wrath	400	45·1	4	10	23	7	5	6	3	4	0	0	9	0·94	7
Butt of Lewis	170	46·0	8	16	17	5	6	4	2	4	0	0	9	1·36	0
Barrahead	683	45·0	5	15	13	7	10	3	4	5	0	0	13	2·47	2
Skerryvore	150	48·1	10	7	11	18	3	5	5	3	0	2	...	...	0
Rona	222	47·4	11	11	17	4	9	0	8	2	0	0	10	1·29	6
Ardnamurchan	180	48·8	12	13	10	8	4	6	4	4	1	0	11	2·76	0
Rhinns of Islay	150	48·2	6	5	13	15	6	4	7	3	3	1	10	2·62	0
Mull of Kintyre	297	47·8	2	7	13	18	4	2	6	8	2	0	10	3·20	1
Turnberry	96	48·8	8	14	6	6	13	7	4	4	0	1	9	...	0
Corsewall	112	48·6	8	9	9	10	9	5	6	5	1	1	14	3·84	2
Mull of Galloway	325	48·1	8	1	18	7	12	11	2	3	0	2	12	2·81	28
JUNE.															
St. Abb's Head	224	51·9	3	1	3	7	8	16	19	3	0	0	...	5·02	29
Isle of May	240	51·0	1	1	6	5	6	8	30	3	0	0	18	3·21	40
Bell Rock	93	51·0	1	2	3	9	11	15	18	1	0	0	...	...	12
Kinnairdhead	120	51·5	8	4	0	6	14	5	4	19	0	0	18	2·05	17
Tarbetness	175	50·7	7	5	1	15	1	9	8	14	0	0	19	3·91	18
Pentland Skerries	170	48·9	3	5	6	12	11	8	11	3	1	0	17	3·18	61
Hoy Sound, Low	55	50·4	5	3	4	15	8	6	15	3	1	0	19	4·19	37
Start Point	80	49·1	7	4	6	17	5	4	10	7	0	1	11	3·50	59
Bressay Sound	105	48·8	9	2	7	22	5	5	4	6	0	0	11	2·61	124
Holbornhead	75	50·6	5	1	6	10	4	6	17	4	7	0	24	4·48	20
Cape Wrath	400	48·5	3	1	4	9	9	1	16	7	10	0	17	4·54	87
Butt of Lewis	170	48·6	9	7	7	7	5	12	8	5	0	0	24	4·18	2
Barrahead	683	47·1	7	2	3	6	10	8	17	5	2	0	6	2·08	176
Skerryvore	150	49·9	9	1	2	12	6	7	14	9	0	1	...	...	10
Rona	222	49·7	8	7	5	4	24	4	6	2	0	0	21	3·37	8
Ardnamurchan	180	50·2	5	2	2	12	8	18	9	3	1	0	20	4·21	1
Rhinns of Islay	150	50·0	4	1	3	11	6	3	16	10	6	0	14	3·63	22
Mull of Kintyre	297	50·7	2	2	3	19	9	3	8	14	0	0	17	5·10	35
Turnberry	96	51·4	3	2	2	8	21	15	8	1	0	0	19	...	0
Corsewall	112	51·3	2	1	2	3	18	12	18	4	0	0	19	4·62	11
Mull of Galloway	325	51·4	2	0	0	6	17	13	16	6	0	0	17	3·89	58

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

JULY–SEPTEMBER 1907.

	Height.	Mean Temperature.	Direction of Wind.								Calm or Variable.	Gales and Storms.	Rain.		Fog.
			N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
JULY.	Feet.	°										Days		Inches.	Hrs.
St. Abb's Head	224	55·1	10	10	7	5	7	4	12	4	3	0	...	1·92	35
Isle of May	240	54·6	2	9	15	7	3	4	20	2	0	0	9	1·22	46
Bell Rock	93	54·8	3	12	12	5	8	7	11	4	0	0	...	...	32
Kinnairdhead	120	53·7	14	4	1	7	10	2	2	21	1	0	11	1·42	40
Tarbetness	175	53·4	11	3	20	10	2	1	7	6	2	0	12	1·27	19
Pentland Skerries	170	51·5	12	7	10	4	0	4	3	18	4	0	6	2·26	88
Hoy Sound, Low	55	51·9	3	10	3	13	2	3	8	15	5	0	9	1·55	85
Start Point	80	50·7	17	10	5	6	4	2	4	14	0	0	9	1·56	63
Bressay Sound	105	50·4	27	6	4	4	2	3	2	11	3	0	8	1·16	25
Holbornhead	75	52·2	5	7	10	13	0	0	7	12	8	0	14	1·40	74
Cape Wrath	400	50·2	8	5	25	3	1	9	2	9	0	0	11	1·68	104
Butt of Lewis	170	50·8	8	17	15	5	2	6	3	6	0	0	13	2·22	39
Barrahead	683	52·8	10	9	3	3	8	10	6	9	4	0	9	1·97	181
Skerryvore	150	54·0	14	10	0	12	5	6	5	10	0	0	...	...	94
Rona	222	53·9	25	6	4	2	12	1	8	4	0	0	10	2·49	48
Ardnamurchan	180	55·3	8	13	3	3	8	9	4	9	5	0	10	2·55	44
Rhinns of Islay	150	54·9	12	3	16	5	3	3	1	16	3	0	5	3·53	83
Mull of Kintyre	297	55·3	6	1	10	16	2	1	4	20	2	0	7	2·20	40
Turnberry	96	56·5	16	3	3	5	9	6	7	8	5	0	6	...	6
Corsewall	112	55·5	8	9	0	5	5	6	9	15	5	0	8	1·40	17
Mull of Galloway	325	56·3	5	1	13	1	5	12	6	15	4	0	8	1·53	33
AUGUST.															
St. Abb's Head	224	56·0	5	4	1	4	6	12	24	6	0	0	...	1·64	1
Isle of May	240	54·9	4	3	3	3	5	4	37	3	0	0	16	2·96	13
Bell Rock	93	54·9	4	2	6	5	4	16	24	1	0	0	...	...	0
Kinnairdhead	120	53·6	11	1	1	6	5	11	7	20	0	0	15	2·85	11
Tarbetness	175	52·0	12	1	4	6	4	5	16	11	3	2	20	2·88	7
Pentland Skerries	170	51·0	5	2	7	6	6	7	15	14	0	0	18	1·32	19
Hoy Sound, Low	55	52·4	5	2	2	10	3	9	12	14	5	2	18	4·67	10
Start Point	80	51·7	6	2	5	7	6	6	18	12	0	2	11	2·02	8
Bressay Sound	105	51·0	13	3	4	4	7	10	6	11	3	1	12	4·18	0
Holbornhead	75	52·2	4	4	5	8	4	8	17	9	3	0	25	4·84	0
Cape Wrath	400	49·7	8	4	7	5	1	19	9	9	0	6	26	4·48	84
Butt of Lewis	170	50·9	10	4	7	3	6	14	12	6	0	0	20	4·77	2
Barrahead	683	49·7	8	3	1	2	5	21	13	9	0	0	17	4·57	177
Skerryvore	150	53·5	11	1	0	4	4	13	19	11	0	1	...	...	17
Rona	222	53·0	13	1	5	3	18	11	5	6	0	1	18	2·91	0
Ardnamurchan	180	53·1	0	3	5	3	10	17	13	11	0	0	17	6·68	15
Rhinns of Islay	150	54·2	5	1	0	2	5	8	23	16	2	0	16	4·38	13
Mull of Kintyre	297	54·0	4	1	1	12	11	8	8	17	0	0	18	6·00	14
Turnberry	96	55·4	5	2	0	9	18	10	12	6	0	0	...	...	2
Corsewall	112	55·5	1	0	0	3	13	19	13	13	0	0	16	3·50	0
Mull of Galloway	325	54·9	4	0	0	1	6	27	15	9	0	0	14	2·93	10
SEPTEMBER.															
St. Abb's Head	224	54·7	6	1	1	11	8	17	11	5	0	0	...	1·28	79
Isle of May	240	54·2	0	3	7	3	7	5	35	0	0	0	8	1·02	169
Bell Rock	93	53·2	0	4	1	9	6	25	14	1	0	0	...	...	66
Kinnairdhead	120	54·5	4	1	0	1	17	14	8	14	1	1	8	0·54	53
Tarbetness	175	53·4	6	0	7	3	4	10	11	14	5	2	5	0·60	93
Pentland Skerries	170	51·9	4	0	5	5	17	6	14	8	1	1	6	0·53	102
Hoy Sound, Low	55	52·9	2	2	2	11	7	8	18	8	2	1	6	1·50	84
Start Point	80	52·0	4	0	3	6	21	6	15	5	0	2	5	1·25	60
Bressay Sound	105	49·6	4	0	1	9	14	13	11	7	1	1	15	2·23	116
Holbornhead	75	53·8	1	3	0	3	10	9	24	4	6	0	12	0·85	51
Cape Wrath	400	51·9	3	1	2	4	5	26	12	6	1	4	14	1·96	78
Butt of Lewis	170	52·0	2	8	8	6	6	18	9	3	0	0	11	2·04	7
Barrahead	683	51·0	3	2	3	4	21	17	8	2	0	0	6	1·01	188
Skerryvore	150	54·4	6	2	2	12	9	18	7	4	0	0	...	...	75
Rona	222	54·3	6	1	2	3	34	5	7	2	0	0	10	1·08	46
Ardnamurchan	180	54·4	1	4	4	12	10	15	9	2	3	0	12	2·10	47
Rhinns of Islay	150	55·2	6	0	3	14	9	10	7	8	3	0	7	1·78	42
Mull of Kintyre	297	55·7	7	2	3	20	8	2	8	9	1	0	7	2·20	39
Turnberry	96	56·1	10	2	3	16	12	6	7	3	1	0	...	...	3
Corsewall	112	56·4	4	6	3	17	12	6	5	5	2	0	6	1·18	19
Mull of Galloway	325	56·2	7	2	6	12	7	17	5	3	1	0	4	0·72	30

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NORTHERN LIGHTHOUSES.

October–December 1907.

	Height.	Mean Temperature.	Direction of Wind.								Calm or Variable.	Gales and Storms.	Rain.		Fog.
			N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.			Days.	Amount.	
OCTOBER.	Feet.	°										Days		Inches	Hrs.
St. Abb's Head	224	49·5	4	7	9	16	6	11	4	2	8	1	...	8·99	25
Isle of May	240	49·8	2	8	11	7	13	7	18	1	0	0	16	4·27	68
Bell Rock	93	49·4	8	8	8	11	10	18	8	1	0	1	...	...	18
Kinnairdhead	120	49·3	2	5	11	8	19	11	5	6	0	1	19	4·07	14
Tarbetness	175	47·8	5	9	5	13	7	6	6	11	0	0	16	2·10	41
Pentland Skerries	170	48·9	2	15	7	14	8	6	7	3	0	0	12	0·67	48
Hoy Sound, Low	55	48·5	8	14	4	18	2	11	6	2	2	0	15	2·68	19
Start Point	80	49·2	6	11	9	9	15	6	5	1	0	2	11	2·89	25
Bressay Sound	105	48·3	7	8	6	13	12	8	4	2	2	0	20	8·68	70
Holbornhead	75	47·8	2	4	10	8	9	6	10	2	11	0	15	1·53	26
Cape Wrath	400	47·5	8	7	12	14	6	9	8	8	0	0	13	1·59	16
Butt of Lewis	170	48·1	4	12	4	15	10	9	5	8	0	0	18	1·80	0
Barrahead	683	46·1	8	10	11	7	8	8	6	7	2	0	13	2·13	24
Skerryvore	150	49·6	7	10	10	9	6	7	6	7	0	2	...	...	2
Rona	222	48·5	6	10	15	7	12	9	2	1	0	0	11	1·20	0
Ardnamurchan	180	49·2	6	15	12	5	9	6	8	4	2	2	15	8·88	0
Rhinns of Islay	150	50·7	6	9	12	6	10	8	8	7	1	1	14	8·80	5
Mull of Kintyre	297	49·0	7	11	5	12	12	4	4	7	0	0	17	6·20	0
Turnberry	96	50·0	4	16	12	14	4	6	8	2	1	0	...	...	0
Corsewall	112	50·0	6	9	8	13	10	8	5	8	0	0	21	8·88	0
Mull of Galloway	325	49·7	7	9	7	5	16	11	4	2	1	0	18	6·05	5
NOVEMBER.															
St. Abb's Head	224	43·9	1	7	8	6	8	11	9	10	0	0	...	8·87	6
Isle of May	240	45·1	1	5	6	4	5	12	22	5	0	0	11	1·36	66
Bell Rock	93	44·6	4	5	2	6	10	10	16	7	0	0	...	...	5
Kinnairdhead	120	44·4	8	1	2	6	8	16	12	12	0	4	19	1·63	0
Tarbetness	175	42·3	1	3	1	8	0	17	14	16	0	7	11	1·89	7
Pentland Skerries	170	45·0	2	2	4	7	12	15	10	8	0	2	13	1·86	0
Hoy Sound, Low	55	44·6	6	1	8	8	9	11	9	11	2	1	14	8·05	0
Start Point	80	45·0	3	8	4	9	16	9	11	5	0	5	10	2·91	0
Bressay Sound	105	44·9	6	4	2	7	13	14	5	9	0	8	21	4·43	4
Holbornhead	75	43·1	1	2	4	7	5	17	17	5	2	0	17	1·61	0
Cape Wrath	400	42·7	2	3	8	5	12	17	11	7	0	2	16	2·45	5
Butt of Lewis	170	44·2	1	2	8	8	17	15	8	6	0	4	20	4·07	0
Barrahead	683	42·7	8	6	0	7	13	11	8	12	0	0	18	2·68	52
Skerryvore	150	46·1	8	6	2	8	9	9	8	10	0	5	...	...	2
Rona	222	45·0	3	5	7	8	28	5	6	8	0	5	15	1·88	0
Ardnamurchan	180	45·6	6	5	11	4	16	8	7	8	0	8	15	5·76	0
Rhinns of Islay	150	47·1	6	7	7	7	6	7	10	8	2	8	18	2·98	2
Mull of Kintyre	297	45·3	4	5	1	20	2	11	6	11	0	8	16	3·85	4
Turnberry	96	45·8	2	11	10	10	8	7	7	5	0	2	...	...	0
Corsewall	112	46·0	4	6	5	11	7	9	11	7	0	2	14	5·06	0
Mull of Galloway	325	45·2	7	1	9	4	9	11	10	8	0	3	16	8·41	0
DECEMBER.															
St. Abb's Head	224	39·8	2	8	12	6	13	15	9	2	[illegible]	0	...	2·82	11
Isle of May	240	40·9	0	4	8	7	12	9	18	3	1	0	16	2·29	70
Bell Rock	93	41·1	0	6	9	7	14	11	15	0	0	0	...	...	7
Kinnairdhead	120	40·2	0	0	5	10	18	18	8	8	0	2	16	2·18	2
Tarbetness	175	39·4	2	1	8	10	11	17	16	2	0	8	15	1·78	2
Pentland Skerries	170	42·1	8	4	5	9	23	13	5	0	0	2	15	0·46	0
Hoy Sound, Low	55	41·2	3	2	7	4	24	7	9	8	3	1	12	2·60	0
Start Point	80	42·5	2	5	7	16	18	6	6	2	0	4	9	2·08	0
Bressay Sound	105	42·6	4	7	5	15	20	5	4	1	1	1	21	8·89	0
Holbornhead	75	39·6	2	2	8	5	18	16	7	2	7	0	23	2·87	11
Cape Wrath	400	40·0	0	1	7	20	7	15	9	8	0	0	19	8·15	2
Butt of Lewis	170	41·9	3	3	7	22	18	6	5	3	0	0	18	4·22	1
Barrahead	683	40·1	1	8	4	12	18	9	9	6	0	0	17	8·29	78
Skerryvore	150	43·5	4	1	5	14	13	10	10	5	0	11	...	...	0
Rona	222	42·2	0	5	14	7	22	8	4	2	0	4	14	8·00	0
Ardnamurchan	180	42·6	1	5	9	14	11	9	11	2	0	4	16	6·00	1
Rhinns of Islay	150	43·9	8	2	9	9	13	12	9	5	0	7	18	4·21	7
Mull of Kintyre	297	42·0	0	1	5	28	6	9	9	4	0	2	17	5·49	0
Turnberry	96	42·1	1	8	11	15	17	8	5	1	1	0	...	...	0
Corsewall	112	42·3	0	2	14	14	7	14	9	2	0	2	14	8·98	3
Mull of Galloway	325	41·8	1	1	7	14	8	25	3	2	1	2	18	8·40	17

10. RETURNS from Additional Stations during the Year 1907.

STATIONS AND OBSERVERS' NAMES.	Height above Sea-Level.	Months.	BAROMETER. Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	AIR TEMPERATURE. Mean Max. A.	Mean Min. B.	Mean of A and B.	Highest.	Lowest.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.	CLOUD. Scale 0-10.	RAIN. No. of Days.	Total Fall.	Most in a Day. Amount	Day of Month.	WIND DIRECTION. Number of Observations at 9 a.m. and 9 p.m. N	NE	E	SE	S	SW	W	NW	Calm or Var.	WIND FORCE. Scale of 0-12.
COLDSTONE, SCHOOLHOUSE,	ft.	1907	in.	°	°	°	°	°	°	°	°				in.	in.											
(Aberdeen.)	608	Jan.	...	42·0	30·7	36·4	52·0	19·0	...	...	...	...	...	16	1·63	0·38	28	2	0	0	1	1	3	26	25	4	...
J. B. Anderson.		Feb.	...	41·6	29·7	35·7	57·0	8·0	...	...	...	...	...	19	1·76	0·27	19	0	0	1	0	0	8	23	23	1	...
		Mar.	...	47·3	32·4	39·9	62·0	9·0	...	...	...	...	...	15	1·39	0·42	16	0	0	0	1	10	12	14	23	2	...
		Apr.	...	48·4	34·8	41·4	62·0	26·0	...	...	...	...	...	22	2·56	0·37	3	0	0	13	4	1	7	8	17	10	...
		May	...	52·7	38·8	45·8	70·0	30·0	...	...	...	...	...	24	5·53	1·76	23	8	2	6	5	6	9	3	13	10	...
		June	...	57·4	42·4	49·9	65·0	34·0	...	...	...	...	...	23	4·28	0·67	2	5	0	2	2	3	5	19	5	19	...
		July	...	61·0	47·0	54·0	78·0	42·0	...	...	...	...	...	20	1·89	0·42	28	2	1	2	6	1	3	15	24	8	...
		Aug.	...	59·0	44·6	51·8	65·0	33·0	...	...	...	...	...	26	2·66	0·28	12	1	0	0	3	1	6	33	12	6	...
		Sept.	...	63·8	42·8	53 3	79·0	30·0	...	...	...	...	...	10	1·09	0·36	4	0	0	0	1	1	22	12	5	19	...
		Oct.	...	51·6	40·0	45·8	65·0	25·0	...	...	...	...	...	24	4·40	0·91	17	10	4	0	13	7	12	2	4	10	...
		Nov.	...	45·1	32·3	38·7	57·0	20·0	...	...	...	...	...	16	1·64	0·59	26	0	2	2	5	4	7	12	19	9	...
		Dec.	...	39·6	31·5	35·6	47·0	11·0	...	...	...	...	...	20	2·77	1·00	13	1	1	0	11	10	21	2	4	12	...
HELENSBURGH II.,		1907																									
(Dumbarton.)	300	Jan.	...	43·1	34·2	38·7	49·0	18·2	...	...	...	...	...	19	3·52	0·62	1	...	...	...	...	...	...	...	...	...	...
J. B. Wilson, Waterworks.		Feb.	...	43·5	30·7	37·1	51·7	20·0	...	...	...	...	...	17	3·41	0·78	16	...	...	...	...	...	...	...	...	...	...
		Mar.	...	47·8	35·6	41·7	60·9	25·2	...	...	...	...	...	18	5·14	0·77	16	...	...	...	...	...	...	...	...	...	...
		Apr.	...	51·0	37·5	44·3	62·0	26·0	...	...	...	...	...	18	2·21	0·60	6	...	...	...	...	...	...	...	...	...	...
		May	...	53·8	41·0	47·4	68·0	34·0	...	...	...	...	...	19	4·21	0·51	30, 31	...	...	...	...	...	...	...	...	...	...
		June	...	55·0	45·1	50·1	62·7	39·1	...	...	...	...	...	26	4·92	0·60	12	...	...	...	...	...	...	...	...	...	...
		July	...	63·3	49·4	56·4	81·2	42·1	...	...	...	...	...	14	2·76	0·69	12	...	...	...	...	...	...	...	...	...	...
		Aug.	...	59·0	48·0	53·5	68·0	38·9	...	...	...	...	...	29	6·03	0·88	28	...	...	...	...	...	...	...	...	...	...
		Sept.	...	60·3	45·4	52·9	70·0	32·5	...	...	...	...	...	11	1·91	0·70	1	...	...	...	...	...	...	...	...	...	...
		Oct.	...	51·8	41·9	46·9	60·5	31·0	...	...	...	...	...	24	4·99	1·42	15	...	...	...	...	...	...	...	...	...	...
		Nov.	...	47·3	35·8	41·6	56·0	25·5	...	...	...	...	...	22	3·39	0·72	26	...	...	...	...	...	...	...	...	...	...
		Dec.	...	42·8	34·4	38·6	50·0	26·5	...	...	...	...	...	24	6·16	0·80	7	...	...	...	...	...	...	...	...	...	...

ISSAN, (Tyrone.)		1907																									
J. H. Staples.	305	Jan.	...	43·5	34·2	38·9	50·0	19·0	38·9	1·0	·218	93	...	20	1·98	0·50	1	4	1	5	0	4	1	40	7	0	...
		Feb.	...	42·5	32·2	37·4	52·0	23·0	36·4	1·1	·195	91	...	20	3·45	0·65	19	9	1	3	0	4	5	29	5	0	...
		Mar.	...	50·6	35·9	43·3	61·0	30·0	42·1	1·6	·234	88	...	22	5·89	1·45	16	0	0	1	0	5	2	45	9	0	...
		Apr.	...	50·9	37·8	44·4	57·0	28·0	43·5	2·0	·240	84	...	23	2·72	0·56	5	14	2	10	3	1	2	24	4	0	...
		May	...	56·0	42·6	49·3	70·0	34·0	48·4	2·5	·280	83	...	20	4·99	0·92	30	16	3	12	7	7	0	15	2	0	...
		June	...	58·3	45·7	52·0	64·0	39·0	51·6	2·1	·328	86	...	27	5·93	0·76	1, 4	2	0	5	0	0	1	46	6	0	...
		July	...	65·5	50·3	57·9	81·0	40·0	56·8	2·4	·391	84	...	18	3·82	0·81	19	11	2	5	2	1	2	30	9	0	...
		Aug.	...	62·1	47·9	55·0	67·0	39·0	54·2	2·3	·355	84	...	29	4·36	0·61	11	7	0	1	1	0	1	45	7	0	...
		Sept.	...	63·6	48·4	56·0	74·0	35·0	55·6	1·8	·391	88	...	7	1·08	0·47	4	8	2	7	0	1	2	35	5	0	...
		Oct.	...	53·2	41·5	47·4	63·0	31·0	46·8	1·8	·289	91	...	24	4·50	0·77	22	13	0	5	0	2	6	35	1	0	...
		Nov.	...	47·9	35·0	41·5	54·0	26·0	39·8	1·1	·223	92	...	22	3·84	1·11	26	10	2	2	0	0	3	35	8	0	...
		Dec.	...	43·7	34·8	39·3	51·0	27·0	38·5	1·2	·217	93	...	28	4·36	0·94	7	9	3	4	2	1	5	33	5	0	...
HEBRON, (Palestine.)		1907																									
Lat. 31° 31′ N. Long. 35° 8′ E.	2900	Jan.	27·078	53·1	37·1	45·1	76·0	19·0	48·3	3·1	·215	78	8·6	16	5·58	1·88	30	3	7	1	10	2	18	9	12	0	2·6
Dr. Alexander Paterson.		Feb.	26·932	53·3	37·8	45·6	61·7	31·0	44·6	2·8	·234	80	7·8	9	3·10	0·92	11	1	1	2	6	3	4	25	14	0	2·8
		Mar.	26·941	56·3	37·3	46·8	64·3	30·2	45·6	3·4	·232	76	5·3	8	3·56	1·56	8	2	5	4	4	1	3	34	9	0	3·0
		Apr.	26·924	69·9	44·2	57·1	91·4	31·0	57·1	8·4	·256	56	3·8	6	3·30	0·52	1	5	2	7	14	2	2	11	17	0	2·6
		May	26·944	79·9	50·5	65·2	98·0	42·4	62·8	7·7	·342	61	...	1	0·70	0·70	6	7	2	3	11	3	4	8	24	0	3·2
(Observations taken at 8 a.m. and 7 p.m.)		June	26·942	83·1	54·1	68·6	98·0	45·3	65·2	9·0	·345	55	...	0	0·00	...	...	6	3	2	0	0	3	21	25	0	3·0
		July	26·879	86·5	56·2	71·4	92·0	51·0	72·5	7·6	·505	68	0·2	0	0·00	...	...	5	1	0	0	3	1	9	43	0	2·6
		Aug.	26·914	85·6	57·6	71·6	90·6	52·1	71·1	7·5	·481	63	0·5	0	0·00	...	...	4	0	0	1	0	0	9	48	0	2·6
		Sept.	26·998	81·2	54·9	68·1	90·0	48·8	65·8	6·4	·420	67	1·9	0	0·00	...	...	4	0	0	2	0	0	6	47	0	3·2
		Oct.	27·036	79·1	51·2	65·2	86·0	48·2	62·7	7·8	·339	60	2·0	1	0·04	0·04	19	6	11	4	2	1	0	2	36	0	2·4
		Nov.	27·045	61·3	44·1	52·7	75·1	34·2	50·5	2·6	·302	82	4·6	10	4·50	1·02	20	4	5	3	3	0	4	16	25	0	2·7
		Dec.	27·086	56·4	40·8	48·6	68·3	31·8	46·9	2·2	·269	85	6·6	10	4·45	1·62	19	6	4	9	6	2	3	14	18	0	3·1
CHRISTMAS ISLAND,		1907																									
Lat. 10° 25′ S. Long. 105° 48′ E.	18	Jan.	29·791	87·9	75·1	81·5	92·2	73·3	78·0	1·8	·866	90	3·9	10	10·24	5·03	4	1	1	3	3	2	13	23	0	16	1·6
W. S. Anderson, F.C.S.		Feb.	29·766	86·3	75·3	80·8	91·8	72·5	78·4	1·4	·898	92	6·1	22	14·00	2·96	18	1	1	1	11	0	6	26	0	10	2·0
		Mar.	29·799	87·1	75·8	81·4	92·2	73·5	79·5	2·4	·882	88	5·0	20	8·14	2·00	21	1	0	4	11	0	2	28	7	9	1·6
		Apr.	29·819	89·2	76·0	82·6	93·0	73·8	80·4	2·6	·898	81	4·1	5	2·27	1·01	2	0	0	14	36	0	0	0	0	10	1·8
		May	29·862	89·3	74·4	81·8	92·6	70·5	78·5	2·2	·862	88	3·6	13	2·76	1·58	9	0	0	12	45	1	0	0	0	4	1·8
		June	29·829	87·1	74·0	80·6	89·8	69·0	77·6	2·6	·818	86	4·5	10	5·52	1·95	18	0	9	31	16	0	0	0	0	4	2·0
		July	29·855	86·2	72·8	79·5	88·2	69·5	77·0	2·6	·796	86	3·2	13	2·08	0·51	11	0	1	18	35	0	0	0	0	8	1·7
		Aug.	29·918	87·1	71·5	79·3	89·2	68·4	77·2	3·3	·775	88	3·5	5	1·84	0·77	1	0	0	46	13	0	0	0	0	3	1·9
		Sept.	29·902	87·8	72·5	80·1	89·8	69·8	78·7	4·3	·771	78	3·3	8	2·09	0·72	10	0	0	41	16	0	0	0	0	3	1·5
		Oct.	29·901	90·3	73·7	82·0	93·7	71·2	80·8	6·5	·782	69	3·0	0	0·00	...	...	0	0	25	29	0	0	0	0	8	1·5
		Nov.	29·847	87·5	74·6	81·0	92·8	70·9	79·5	4·0	·807	80	4·8	16	10·86	2·80	14	0	0	22	11	3	0	0	0	24	1·4
		Dec.	29·802	85·2	74·4	79·8	90·3	71·2	77·7	1·6	·868	91	5·1	19	14·61	1·68	7	0	1	3	10	1	1	5	19	22	1·8

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 31st MARCH 1907.

By Dr **Buchan**, under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 60 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N. ; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1907.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
Jan.	30·131	42·9	33·4	38·2	56·0	9·4	38·1	1·8	·194	84	16	2·88	6·5	*
Feb.	29·844	42·4	30·8	36·6	60·0	5·0	36·8	1·6	·135	86	15	3·09	6·0	*
Mar.	29·951	49·1	35·0	42·1	69·0	10·0	41·2	2·2	·213	83	17	3·48	5·8	*

1907.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS.										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
Jan.	36·6	37·1	39·1	39·3	40·0	5	1	3	2	5	14	19	10	3	2·9	21	1
Feb.	35·0	35·3	37·1	36·9	38·6	6	2	1	2	5	12	14	10	4	3·0	8	1
Mar.	39·6	39·6	40·7	39·2	40·0	3	1	2	2	6	15	20	9	4	2·8	2	1

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these returns are compared with the averages of 1856–1905, during the same months, they show the following characteristics and differences :—

JANUARY 1907—

Mean Barometric Pressure, 30·131 inches ; greater than the average of 1856–1905 by 0·328 inch.
Mean Temperature, 38°·2 ; greater by 0°·9.
Mean Daily Range of Temperature, 9°·5 ; greater by 0°·3.
Mean Humidity, 84 per cent. ; less by 3 per cent.
Rain, Number of Days, 16 ; less by 1 day.
Rain, Depth in Inches, 2·88 ; less by 0·96 inch.
Wind, Mean Force (on Scale of 0–12), 2·9 ; being the average.
Wind, Direction of : a 6 days' excess of winds from W. and N.W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·5 ; less by 0·2.

FEBRUARY 1907—

Mean Barometric Pressure, 29·844 inches ; less than the average of 1856–1905 by 0·002 inch.
Mean Temperature, 36°·6 ; less by 1°·6.
Mean Daily Range of Temperature, 11°·6 ; greater by 1°·4.
Mean Humidity, 86 per cent. ; less by 1 per cent.
Rain, Number of Days, 15 ; being the average.
Rain, Depth in Inches, 3·09 ; greater by 0·02 inch.
Wind, Mean Force (on Scale of 0–12), 3·0 ; greater by 0·1.
Wind, Direction of : a 5 days' excess of winds from between W. and N.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·0 ; less by 0·5.

MARCH 1907—

Mean Barometric Pressure, 29·951 inches; greater than the average of 1856–1905 by 0·142 inch.
Mean Temperature, 42°·1; greater by 1°·5.
Mean Daily Range of Temperature, 14°·1; greater by 2°·0.
Mean Humidity, 83 per cent.; less by 2 per cent.
Rain, Number of Days, 17; greater by 1 day.
Rain, Depth in Inches, 3·48; greater by 0·57 inch.
Wind, Mean Force (on Scale of 0–12), 2·8; less by 0·1.
Wind, Direction of: a 7 days' excess of winds from a Westerly quarter.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 5·8; less by 0·5.

JANUARY 1907—

Hence the month of JANUARY 1907 was characterised by an exceptionally high mean pressure; a slightly high mean temperature, with a fractionally high mean daily range; a low mean humidity; a low mean rainfall, with about the average number of days with rain; a large excess of winds from W. and N.W.

The mean barometric pressure of 30·131 inches was as much as 0·328 inch above the normal, and has been exceeded during the last fifty years only in 1880 and 1896. A deep depression skirted the North of Scotland on 1st and 2nd, and pressure was again low on 28th and 29th. But from 6th to 26th conditions were markedly anticyclonic, and on the morning of the 23rd pressure was above 31 inches over a large part of the country. A reading of 31·06 inches at Aberdeen has been exceeded there only by one of 31·11 inches on January 31st, 1902.

The mean temperature was 38°·2, or 0°·9 above the normal, the days being 1°·0 and the nights 0°·7 above their respective averages. Many stations practically agreed with their normals, but the month embraced a wide range of temperature conditions. On 1st the severe cold of the closing days of December had disappeared, except towards the North-East, Dundee and Aberdeen registering their minima on that day. Thereafter the month fell into two sharply contrasted periods, extremely mild weather prevailing until 21st, with a wintry spell during the last ten days of the month. In the Edinburgh district the mean temperature of the week ending on 26th was no less than 10° below that of the week ending on 12th. Highest temperatures fell, as a rule, between 5th and 7th, or between 12th and 15th, and lowest on 24th, 26th or 31st. The extremes were 56°·0 at Clathick on 15th, and 9°·4 at Kingussie on 31st.

The mean rainfall was 2·88 inches, or 25 per cent. below the normal. There was a decided excess in Shetland, Orkney, and the Northern part of the Mainland, amounting to 54 per cent. at Dunrobin and 33 per cent. at Glencarron. But in most districts there was a well-marked shortage. Eastern districts from Montrose Southwards, and also Dumfriesshire, had less than half their average rainfalls. In the North-West Highlands rain fell on every day from 1st to 16th, with very heavy falls from 11th to 14th. From 16th to 25th there was a dry spell in most districts, followed by several wet days. In Midlothian, East Lothian, and the Border Counties, only nominal amounts were registered between 6th and 25th. Of heavy falls we may note:—at Dunrobin, 1·06 inch on 2nd; at Glencarron, 1·96 inch on 11th, 2·21 inches on 13th and 1·64 inch on 27th; and at Lochbuie, 1·50 inch on 1st and 1·20 inch on 3rd.

The weather was rather stormy, especially in the North, from 1st to 3rd, and gales were general between 27th and 30th.

Some snow or sleet fell early in the month, whilst the last ten days were of a wintry character, with a rather severe snowstorm on 29th.

On 28th a sharp thunderstorm travelled from N.W. to S.E., being noted at Glencarron at 10·45 a.m.; at Fort-William at 11·20 a.m., at Rothesay at noon, and at Edinburgh at 0·54 p.m.

Bright sunshine differed but little from the normal.

Auroras observed in Shetland on 8th, 12th, 14th, and 15th.

FEBRUARY 1907—

Hence the month of FEBRUARY 1907 was characterised by an average mean pressure; a low mean temperature, with a rather high mean daily range; a mean humidity about the average; an average mean rainfall; a large excess of winds from between W. and N.

The mean pressure was 29·844 inches, being practically the normal. Pressure was high at the beginning and end of the month, the only important disturbance occurring on 19th and 20th, when a very deep depression crossed the North of Scotland. Range was large, the extremes at Leith being 30·587 inches on 5th and 28·530 inches on 19th.

The mean temperature was 36°·6, or 1°·6 below the normal, the days being 0°·9 and the nights 2°·3 below their respective averages. Temperature was lower than in January, clear skies promoting terrestrial radiation and causing low night readings. But though the month was almost continuously cold, extremely low temperatures were, as a rule, not recorded. The temperature defect was well marked in all districts, but especially in the Border counties. Highest temperatures fell at some stations around 15th, but at most between 25th and 27th; lowest temperatures on 1st, but here and there between 4th and 6th, at Glencarron and Lairg on 14th, and in Orkney and Shetland on 22nd. Ground frosts were unusually frequent, occurring at Crathes on 26 days, and at Balmoral on 24. The extreme shade readings were 60°·0 at Crathes on 25th and 5°·0 at Balmoral on 1st.

The mean rainfall was 3·09 inches, being practically the normal. A general excess in North and West was balanced by a defect in East and South. Thus Lairg and Fort Augustus had amounts more than 40 per cent. above the normal, whilst Dundee and Kelso had shortages of 50 per cent. The greater part of the month's rain fell between 7th and 11th (Dumfries 1·13 inch on 10th), and between 14th and 20th, some heavy falls occurring in West and North during the latter period. Glenquoich registered about 4½ inches from 15th to 17th, and we may note the following:—at Glencarron, about 1 inch on 14th, 15th and 16th; at Fort Augustus, over 1 inch on 16th and 18th; at Fort William, 1·13 inch on 16th and 1·22 inch on 19th; and at Greenock, 1·23 inch on 16th.

From 19th to 21st severe gales from West and North-West prevailed.

Snow was rather frequent, and snowstorms of considerable severity occurred at times, especially around 12th and 21st.

Thunder in various districts on 15th, 17th or 19th.

Bright sunshine was largely in excess. Edinburgh with 125 hours, or 47 per cent. of the possible amount, was much sunnier than the South of England, *e.g.* Bournemouth, 107 hours.

A brilliant aurora was widely observed on 9th, whilst in Shetland displays were noted on 5th, 8th, 9th, 10th, 13th and 19th.

MARCH 1907—

Hence the month of MARCH 1907 was characterised by a high mean pressure; a high mean temperature, with a large mean daily range; a low mean humidity; a rather high mean rainfall; a large excess of Westerly winds.

The mean pressure was 29·951 inches, or 0·142 inch above the normal. On 16th, a deep depression crossed Scotland in a N.N.E. direction, and pressure was very irregular from 12th to 18th. Earlier in the month, from 4th to 9th, Northern districts lay under the influence of depressions moving on an Easterly track beyond our Islands. From 20th onwards anticyclonic conditions prevailed. At Leith the sea-level extremes were 30·476 inches on 11th and 28·963 inches on 16th.

The mean temperature was 42°·1, or 1°·5 above the normal, the days being 2°·5 and the nights 0°·5 above their respective averages. The excess was everywhere well marked, and in most Eastern districts the month was the mildest March since 1893, whilst in the West the month in 1905 was at least as mild. The only occurrence of cold weather lasting more than a day or so was from 8th to 12th, when low temperatures ruled both by day and night. On 9th the shade maximum at Balmoral rose to only 30°, whilst on the night of 11th the exposed minimum registered 27° of frost. Highest temperatures occurred towards the close of the month, when the days were unusually warm, the last week having in some districts a mean temperature as much as 8° above the normal. The shade extremes were 69°·0 at Broomlands on 29th, and 10°·0 at Balmoral on the night of 11th.

The mean rainfall was 3·48 inches, or 19 per cent. above the normal. In West and South, as in the Lothians and Fifeshire, there was a decided excess, amounting to 95 per cent. at Paisley, and to 60 per cent. or over at Poltalloch, Rothesay, Glasgow, and Drumlanrig. Towards North-East there was a shortage of about 30, and towards South-East of about 20 per cent. From 4th to 10th and from 12th to 19th there were very heavy rains in North-West and West, with heavy general falls on 16th. We may note:—at Glencarron, falls of 1 inch or over on 4th, 7th, and 14th; at Glenquoich, 2·20 inches on 8th and falls of more than 1 inch on 5th, 15th, 16th and 18th; at Leadhills, 2·01 inches on 16th. The last ten days of the month were rainless, or all but so, over the greater part of the country.

Snow was general from 8th to 10th, lying to a considerable depth in places. Lighter falls of snow or hail on some later days.

From 8th to 10th and from 16th to 18th the weather was of a stormy character.

Thunder heard at Baltasound on 6th; a thunderstorm at Lairg on 17th.

Bright sunshine was again abundant, the closing days of the month being exceptionally sunny.

Auroras observed in Shetland on 10th, 11th, 21st and 22nd; in Orkney on 9th. Of these displays, that on 21st was noted at various stations as far south as Edinburgh.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	Jan.	29·616	...	...	...	...	...	...	...	...	39·4	...	...	...
		Feb.	29·349	...	...	...	...	...	...	...	...	38·1	...	...	...
		Mar	29·475	...	...	...	...	...	...	...	...	...	...	...	...
BALTASOUND, (Shetland.) T. EDMONDSTON SAXBY, L.R.C.S.	50	Jan.	29·850	42·3	34·8	38·6	...	48·5	7,8,16	21·5	26	38·9	1·1	·216	92
		Feb.	29·576	41·3	33·2	37·3	...	48·0	15	25·0	22	37·7	0·9	209	92
		Mar.	29·707	44·0	35·0	39·5	...	52·2	27, 29	21·0	9	39·9	0·9	·227	93
LERWICK, (Shetland.) Capt. G. ALLISON, Harbour Master.	30	Jan.	29·886	44·6	36·1	40·4	+0·4	49·0	11, 17	20·0	26	39·4	1·9	·205	85
		Feb	...	42·0	35·5	38·8	−1·0	46·0	15, 26	27·0	22, 23	38·5	1·5	·203	87
		Mar.	29·750	44·5	36·6	40·6	+1·2	51·0	27	22·0	10	40·1	1·6	·216	87
DEERNESS, (Orkney.) M. SPENCE, Schoolhouse.	163	Jan.	29·800	43·2	35·4	39·8	+0·5	49·8	8	22·8	26	39·5	1·8	·207	86
		Feb.	29·519	40·9	33·7	37·3	−1·2	47·8	15	25·0	22	37·5	1·5	·195	87
		Mar.	29·645	44·3	35·8	40·1	+1·4	51·6	26, 27	25·4	9	40·2	1·7	·215	87
KIRKWALL, (Orkney.) WILLIAM T. SINCLAIR.	30	Jan.	29·949	43·6	35·9	39·8	+0·3	51·0	8, 9	23·6	26	...	...	...	...
		Feb.	29·660	40·6	33·9	37·3	−1·8	49·6	15	26·0	22	...	...	...	...
		Mar.	29·792	46·3	36·1	41·2	+1·5	57·6	28	25·6	10	...	...	...	...
DUNROBIN, (Sutherland.) D. MELVILLE, Gardener, Dunrobin Castle.	16	Jan.	30·033	43·5	34·4	39·0	+1·7	53·0	8	22·5	26	38·3	1·8	·196	85
		Feb.	29·737	42·9	31·4	37·2	−1·2	52·0	15, 26	23·0	1	36·4	1·6	·185	86
		Mar.	29·850	47·3	35·1	41·2	+1·0	59·0	27	25·0	12	40·8	2·2	·210	83
LAIRG, (Sutherland.) Rev. JOHN K. MACLEAN, M.A.	390	Jan.	29·598	41·5	30·8	36·2	−0·1	50·0	8,9,16	19·0	26	36·1	1·2	·190	89
		Feb.	29·298	42·2	28·5	35·4	−0·8	50·7	28	14·5	14	34·2	1·1	·176	88
		Mar.	29·411	49·1	33·7	41·4	+2·7	66·3	26	18·0	11	39·6	2·2	·201	82
GLENCARRON, (Ross.) D. D. MUNRO.	504	Jan.	29·541	42·1	33·1	37·6	+0·3	48·9	5	18·0	31	37·8	1·6	·196	87
		Feb.	29·251	41·5	30·6	36·0	−1·1	49·6	17	17·0	14	36·1	1·4	·187	87
		Mar.	29·350	46·2	34·9	40·6	+2·3	62·9	29	22·6	12	40·0	1·9	·209	85
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	Jan.	29·930	...	...	...	...	...	...	...	...	42·4	...	...	...
		Feb.	29·656	...	...	...	...	...	...	...	...	40·5	...	...	...
		Mar.	29·721	...	...	...	...	...	...	...	...	43·1	...	...	...
KINGUSSIE, (Inverness.) Dr WALTER DE WATTEVILLE.	828	Jan.	29·206	40·5	28·8	34·7	+0·0	49·4	16	9·4	31	35·3	1·3	·181	88
		Feb.	28·909	39·6	27·8	33·7	−1·5	47·7	27	4·5	1	33·4	1·0	·171	89
		Mar.	29·022	46·8	31·1	39·0	+2·3	61·2	29	16·7	12	39·1	2·4	·193	81
INVERNESS, (Inverness.) W. G. MACCONNACHIE, M.A.	114	Jan.	29·977	43·7	35·7	39·7	+1·4	51·1	12	26·0	26	39·9	2·2	·202	82
		Feb.	29·691	43·0	33·3	38·2	−0·8	52·2	15	23·5	1	37·8	1·9	·191	84
		Mar.	29·781	48·9	37·2	43·1	+2·3	64·6	29	24·4	12	42·7	2·8	·216	79
FORT AUGUSTUS, (Inverness.) Rev. CYRIL VON DIECKHOFF, St Benedict's Priory.	73	Jan.	30·048	43·2	33·5	38·4	+0·4	49·8	7	14·5	31	38·7	1·5	·206	88
		Feb.	29·753	41·8	30·3	36·1	−2·6	50·2	26	12·2	1	36·6	1·3	·192	89
		Mar.	29·857	48·5	35·7	42·1	+2·2	63·6	29	23·8	9	41·4	2·1	·218	84
FORT WILLIAM, (Inverness.) W. T. KILGOUR.	175	Jan.	30·111	43·2	35·3	39·3	+0·2	49·7	12	16·5	31	39·3	1·5	·211	88
		Feb.	29·815	42·4	31·6	37·0	−2·1	50·0	15, 17	15·4	1	37·1	1·1	·199	90
		Mar.	29·918	47·9	37·1	42·5	+2·1	63·0	29	28·0	11, 12	41·6	1·7	·228	87
GORDON CASTLE, (Banff.) C. WEBSTER, Gardener to the Duke of Richmond and Gordon.	107	Jan.	29·934	44·1	33·1	38·6	+0·7	53·3	16	24·5	24	39·3	2·8	·187	79
		Feb.	29·651	43·7	31·5	37·6	−0·7	54·0	15	22·0	1	37·3	2·1	·183	83
		Mar.	29·775	50·7	35·1	42·9	+2·8	65·0	29	18·5	11	42·8	3·7	·201	73
BALMORAL, (Aberdeen.) J. MICHIE, M.V.O., and JOHN M. TROUP.	927	Jan.	29·061	40·9	30·4	35·7	+1·9	49·0	12	13·0	24	35·8	2·0	·174	83
		Feb.	28·791	39·8	28·0	33·9	−0·3	50·0	25, 27	5·0	1	34·5	1·7	·166	83
		Mar.	28·903	46·0	31·6	38·8	+3·3	59·0	29	10·0	12	39·8	2·0	·206	84

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0-10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0-12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
8·8	21	...	...	...	...	9	2	0	0	19	2	3	14	1	1	2	7	16	12	9	0	5·4
8·9	13	...	...	...	...	9	0	0	0	16	0	2	9	2	0	0	9	17	14	5	0	4·5
...	...	...	...	...	...	...	...	...	...	...	1	1	12	0	0	0	10	19	14	7	0	4·2
7·0	29	4·44	...	0·84	2	5	2	1	0	10	2	3	11	3	1	2	10	7	22	6	0	3·8
6·3	28	3·72	...	0·50	14	8	3	1	0	5	2	3	6	2	1	0	6	18	18	5	0	3·3
6·0	25	3·66	...	0·54	4	8	4	1	1	5	6	1	6	1	0	0	9	18	20	7	1	2·9
...	23	4·93	...	0·83	2	2	0	0	...	...	...	4	14	0	1	1	15	9	12	10	0	4·8
...	21	3·67	...	0·57	15	4	0	0	...	...	...	8	10	1	0	0	7	13	13	11	1	4·8
...	18	3·21	...	0·56	10	4	0	0	...	...	...	4	8	0	0	0	5	28	14	7	0	4·4
6·6	23	4·23	+ 0·78	0·50	27	7	2	2	1	9	0	8	6	1	2	2	14	13	15	5	4	6·3
5 8	18	3·51	+ 0·66	0·59	16	6	8	0	3	10	2	7	8	0	0	0	11	16	13	7	1	6·0
6·2	19	2·65	+ 0·07	0·35	12	7	6	0	3	8	0	11	4	0	3	0	21	13	6	15	0	5·2
...	23	5·06	+ 1·11	...	...	...	...	...	...	...	..	8	4	0	2	2	20	14	16	4	0	4·8
...	15	3·94	+ 0·53	0·62	15	...	...	...	...	...	...	5	8	2	0	0	24	12	8	2	0	4·4
...	15	3·57	+ 0·24	0·80	12	...	...	...	...	...	...	1	0	4	0	Q	14	18	22	4	0	3·5
...	17	4·12	+ 1·44	1·06	2	8	0	0	...	...	0	1	11	2	4	2	3	6	22	10	2	2·4
...	11	3·16	+ 0·42	1·04	19	6	0	0	...	...	0	0	16	2	2	1	3	3	16	13	0	1·6
...	15	1·99	− 0·38	0·26	17	5	0	0	...	...	0	0	4	6	2	0	2	9	31	8	0	2·2
6·4	21	4·41	+ 1·00	...	...	8	1	0	2	9	0	6	2	1	2	4	0	1	28	16	8	3·6
5·8	21	4·26	+ 1·30	1·20	16	11	0	0	3	8	0	7	0	0	3	8	1	1	26	13	9	3·5
6·3	21	3·15	+ 0·21	0·42	7	9	1	1	4	9	0	1	0	0	3	6	2	1	22	15	13	3·6
7·7	25	13·11	+ 3·28	2·21	18	6	0	1	3	20	0	1	5	1	9	0	0	0	44	0	3	3·9
8·0	23	10·02	+ 2·58	?1·30	19	8	0	0	0	16	0	1	4	0	6	0	0	0	45	0	1	3·8
6·8	27	11·69	+ 3 92	1·22	4	4	0	0	2	13	1	1	1	0	11	0	0	0	50	0	0	3·5
8·7	24	4·53	− 0·67	0·64	28	9	0	0	1	19	7	5	8	1	0	1	15	10	22	5	0	5·2
8·5	24	4·40	+ 0·44	0·78	20	14	0	0	1	16	3	8	8	2	0	0	6	13	20	6	1	5·0
7·7	24	4·79	+ 1·12	0·55	5	8	0	0	0	12	5	1	1	2	2	0	17	11	22	7	0	4·4
6·4	...	2·33	+ 0·02	...	...	...	...	...	3	9	...	...	...	...	...	...	...	...	...	..	...	...
6·6	...	3·42	+ 1·36	...	...	...	...	...	1	9	...	...	...	...	...	...	...	...	...	...	...	...
6·7	17	2·45	+ 0·59	0·41	7	...	...	...	3	11	...	...	...	...	...	...	...	...	...	...	...	...
6·6	15	1·73	− 0·73	0·35	26	8	5	0	1	7	2	6	2	3	0	0	0	27	27	8	0	3·0
6·8	17	2·25	+ 0·21	0·58	19	7	1	0	2	7	1	4	5	0	1	0	0	24	16	10	0	3·0
6·1	18	2·27	+ 0·30	0·37	7	7	3	0	1	5	2	2	0	0	2	0	0	23	31	5	1	3·6
6 6	24	3·64	− 1·74	0·75	27	6	0	1	0	9	0	3	4	1	0	0	3	33	10	1	10	2·9
7·6	18	5·66	+ 1·82	1·09	18	13	0	0	1	13	1	1	4	1	0	0	8	22	11	1	9	2·4
7·1	20	5·11	+ 1·83	0·80	7	7	1	0	1	9	1	2	2	2	1	0	6	30	9	1	11	2·6
8·7	24	7·70	− 1·37	1·05	27	9	0	1	0	21	0	1	3	1	5	2	3	25	20	1	2	1·8
8·5	21	9·16	+ 2·27	1·22	19	11	1	1	0	15	1	1	1	1	4	0	1	24	14	0	11	1·6
8·4	24	8·16	+ 1·46	1·41	7	8	0	0	0	20	1	0	0	2	1	0	0	26	20	3	10	1·5
5·9	14	1·31	− 0·73	0·25	28	5	1	1	4	6	0	1	0	0	0	2	17	25	10	8	0	2·1
6·1	14	1·42	− 0·54	0·26	19	6	3	0	1	6	0	1	0	0	0	2	16	23	6	9	0	2·1
6·2	14	1·21	− 0·94	0·25	16	5	2	0	3	8	0	0	0	1	0	6	10	30	8	7	0	2·0
7·1	15	1·59	...	0·43	2	10	0	0	0	8	0	0	8	0	0	1	6	5	28	14	0	1·4
7·0	18	1·71	...	0·45	16	11	0	0	0	8	0	0	11	1	0	1	0	3	33	7	0	1·3
7·1	16	1·17	...	0·35	16	9	0	0	0	12	0	0	4	0	0	1	4	7	44	2	0	1·1

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
LOANHEAD, (Aberdeen.) ALEX. FARQUHARSON.	747	Jan.	29·270	42·2	30·9	36·5	+0·6	51·2	10	18·0	24	37·0	1·8	·186	85
		Feb.	28·968	41·8	29·3	35·6	−0·4	57·9	25	13·2	1	36·0	1·4	·186	87
		Mar.	29·106	48·2	32·6	40·4	+2·9	63·4	27	15·8	12	40·9	2·6	·204	80
TILLYPRONIE, (Aberdeen.) ROBT. LITTLEJOHN, Gardener to Sir John F. Clark, Bt.	1120	Jan.	28·861	41·3	38·9	35·1	+0·3	51·0	14	17·3	24	34·9	1·6	·179	90
		Feb.	28·582	41·8	28·0	34·9	−0·1	53·8	27	16·6	1	34·2	1·4	·170	85
		Mar.	28·692	47·8	31·4	39·6	+3·1	60·7	27	19·2	11	38·5	2·5	·185	80
ABERDEEN, (Aberdeen.) PETER HARPER, Superintendent, Duthie Park.	44	Jan.	30·042	41·4	30·7	36·1	−1·3	50·0	7, 13	21·0	1	35·0	1·2	·180	88
		Feb.	29·733	43·5	30·8	37·2	−0·9	57·0	25	22·5	6	37·0	1·5	·191	87
		Mar.	29·868	50·4	34·9	42·7	+2·7	66·0	27	20·0	12	41·2	2·4	·210	82
PETERHEAD, (Aberdeen.) Dr W. H. M'WALTER, H.M. Prison.	100	Jan.	29·967	42·6	33·1	37·8	−1·1	50·0	12, 14	23·5	26	37·8	1·8	·192	84
		Feb.	29·679	42·5	32·7	37·6	−1·2	53·0	25, 27	27·1	6	37·2	1·6	·192	87
		Mar.	29·788	48·0	35·8	41·9	+1·5	58·0	27	26·0	12	41·1	2·0	·216	84
CRATHES, (Kincardine.) J. SMITH, Pinewood.	145	Jan.	29·944	42·2	29·3	35·8	−0·6	52·0	15, 16	18·0	1	35·1	1·9	·167	81
		Feb.	29·652	43·7	29·8	36·8	−0·3	60·0	25	19·0	6	35·8	1·9	·172	82
		Mar.	29·774	50·1	33·0	41·6	+2·5	64·2	27	18·0	12	41·4	3·0	·201	78
MONTROSE, (Forfar.) (Royal Asylum), JAMES MASSON.	200	Jan.	29·905	41·5	32·8	37·2	−0·1	51·0	12	22·0	26	36·9	1·6	·190	88
		Feb.	29·631	41·4	31·3	36·4	−1·2	55·0	27	25·0	6, 26	36·2	1·9	·178	84
		Mar.	29·730	48·0	34·7	41·4	+2·1	60·0	27	20·0	12	40·1	1·8	·212	85
ARBROATH, (Forfar.) JAMES CAMPBELL, "For the Natural History Assoc. of Arbroath."	68	Jan.	30·058	42·8	33·7	38·3	+0·4	55·0	12	26·0	26	37·7	1·8	·186	81
		Feb.	29·784	43·2	32·0	37·6	−0·9	57·0	27	24·0	1	36·8	1·9	·183	84
		Mar.	29·886	49·4	35·1	42·3	+1·8	58·0	27	24·5	11	41·3	2·2	·215	83
LEDNATHIE, (Forfar.) WM. MORRISON, Gardener to Patrick Stormonth Darling.	720	Jan.	...	40·8	30·6	35·7	+0·8	51·8	12	15·5	31	35·7	2·0	·173	83
		Feb.	...	40·2	27·9	34·1	−1·1	55·3	27	8·0	1	34·1	1·9	·159	80
		Mar.	...	47·7	31·9	39·8	+2·8	61·0	27	15·7	12	39·2	2·4	·193	81
DUNDEE, (Forfar.) Eastern Necropolis, J. CARNOCHAN, Curator.	164	Jan.	29·958	41·9	33·3	37·6	+1·0	52·2	12	21·6	1	36·7	1·1	·196	90
		Feb.	29·671	41·3	30·7	36·0	−1·7	54·3	27	19·8	6	35·4	1·3	·182	88
		Mar.	29·781	48·9	35·3	42·1	+2·5	60·0	27, 28	23·7	12	40·8	1·6	·221	88
DUNDEE, Harbour, (Forfar.) J. H. THOMPSON, Harbour Trust.	20	Jan.	30·123	44·4	31·4	37·9	−0·4	53·2	12	23·2	1	...	...	...	...
		Feb.	29·829	43·6	30·8	37·2	−2·3	56·2	27	23·5	7	...	...	...	...
		Mar.	29·946	51·6	35·1	43·4	+2·1	60·0	27	28·5	12	...	...	...	...
BALRUDDERY, (Forfar.) GEORGE DAVIE, Gardener to J. Martin White.	280	Jan.	29·819	42·2	32·2	37·2	+0·3	54·0	12	21·0	31	36·9	1·1	·198	91
		Feb.	29·534	43·0	29·8	36·4	−1·6	56·0	25	18·0	1	35·2	1·3	·181	88
		Mar.	29·642	50·8	33·9	42·4	+2·3	62·0	27, 29	22·0	12	41·0	1·9	·217	85
PERTH, (Perth.) JOHN LESLIE, Gardener to Henry Coates.	105	Jan.	30·035	42·6	31·9	37·3	+0·0	54·0	12	20·0	24	37·0	0·9	·202	91
		Feb.	29·740	42·6	29·1	35·8	−2·4	58·0	27	11·0	6	34·7	1·1	·180	90
		Mar.	29·851	50·9	34·2	42·6	+2·8	65·0	29	26·0	11, 12	40·5	1·8	·215	86
STRONVAR, (Perth.) D. L. MACKINTOSH, Gardener to James Carnegie.	300	Jan.	29·686	43·2	33·5	38·4	−0·2	50·0	12, 15	14·0	31	38·0	2·0	·190	83
		Feb.	29·414	41·8	29·6	35·7	−1·2	59·0	27	12·0	1	35·4	1·3	·182	88
		Mar.	29·514	49·5	33·6	41·6	+2·8	64·0	27	25·0	12	39·8	2·5	·197	80
CLATHICK, (Perth.) ALEX. HENDRY.	300	Jan.	29·819	43·8	32·4	38·1	+1·5	56·0	15	16·0	24	37·8	1·8	·192	85
		Feb.	29·530	43·9	30·4	37·2	−0·4	58·0	25, 26, 27	16·0	1	36·3	2·0	·177	83
		Mar.	29·634	51·5	34·1	42·8	+3·2	65·0	29	25·0	12	40·9	2·5	·206	81
CUPAR, (Fife.) Dr TURNBULL, Fife and Kinross Asylum.	210	Jan.	...	43·1	32·8	38·0	+0·9	54·0	13	21·0	24	...	...	...	...
		Feb.	29·634	43·2	30·5	36·9	−1·0	54·0	25, 26	14·0	1	...	...	...	...
		Mar.	29·736	50·0	35·5	42·8	+2·9	63·0	29	25·0	11	...	...	...	...

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0-10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0-12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
4·3	17	1·97	+ 0·05	0·39	2	4	0	0	10	7	0	6	2	3	2	3	0	3	20	18	11	3·0
5·7	18	1·63	– 0·52	0·28	16	7	0	0	4	8	0	4	0	4	1	6	2	4	7	27	5	3·5
4·7	15	1·73	– 0·51	0·61	16	4	0	0	8	7	0	2	0	1	2	8	1	7	15	12	16	2·4
5·7	17	2·53	+ 0·86	0·49	1	5	0	0	4	9	1	8	7	1	1	2	0	5	22	24	0	5·2
6·1	18	1·78	– 0·33	0·34	20	6	0	0	1	8	0	12	10	0	0	0	1	9	15	21	0	5·7
5·1	17	1·52	– 0·75	0·47	16	3	0	0	5	6	3	3	8	0	1	1	3	9	22	18	0	4·7
4·1	17	1·95	– 0·43	0·48	1	9	0	0	6	3	1	1	4	0	0	1	3	30	14	10	0	2·5
4·3	16	2·51	+ 0·28	0·50	15	6	0	0	2	0	0	4	1	1	0	0	2	32	5	15	0	3·1
4·3	12	1·80	– 0·47	0·56	16	4	0	0	6	3	2	1	0	0	0	2	9	27	13	7	4	2·6
...	10	1·03	– 0·78	...	...	6	0	0	...	...	0	1	4	0	0	1	11	11	18	9	8	2·5
...	9	0·96	– 1·06	...	...	4	1	0	...	...	0	1	7	0	0	0	21	7	1	8	12	2·5
...	...	1·16	– 0·52	...	...	3	1	0	...	...	1	2	2	0	1	0	34	2	3	10	10	2·7
5·8	13	1·84	...	0·65	1	10	0	0	4	9	0	0	0	0	2	4	0	18	17	13	8	2·4
5·5	13	2·00	...	0·36	12	11	2	0	1	6	2	1	0	2	0	0	7	13	17	15	2	2·6
4·2	13	0·82	...	0·27	16	3	0	0	10	8	1	0	0	0	2	4	15	9	17	11	4	2·7
...	9	1·09	– 1·07	0·40	1	7	0	0	...	...	0	2	9	0	2	3	7	32	8	0	1	3·4
...	12	2·21	+ 0·15	0·63	19	7	0	0	...	...	0	3	13	0	0	1	4	14	18	6	0	3·8
...	8	1·31	– 0·56	0·86	16	4	0	0	...	...	4	2	3	0	2	3	11	24	15	4	0	3·7
5·5	16	0·89	– 1·27	...	...	9	1	0	2	5	0	7	1	0	0	4	2	30	16	9	0	3·4
4·7	15	1·16	– 0·65	0·43	19	3	0	0	5	5	0	8	3	0	1	2	0	18	11	21	0	3·9
4·7	14	1·32	– 0·42	0·73	16	6	1	0	8	6	1	6	0	3	3	2	2	20	21	9	2	2·9
5·5	14	2·23	– 1·62	0·81	1	11	0	0	2	6	0	2	3	0	4	0	2	2	24	27	0	3·4
4·9	17	2·39	– 0·81	0·90	19	10	0	0	4	6	0	4	4	0	0	0	0	10	14	26	2	3·2
5·0	17	1·84	– 0·87	0·62	16	8	0	0	2	3	2	0	6	0	1	1	1	9	28	16	0	3·0
8·8	12	1·00	– 1·27	0·46	1	7	1	0	0	24	7	6	1	1	0	3	0	9	32	16	0	3·2
7·9	12	1·06	– 1·02	0·43	19	4	0	0	0	12	2	4	2	3	0	1	0	23	11	16	0	2·7
7·7	13	1·85	– 0·03	0·92	16	4	0	0	1	12	3	0	0	2	0	9	0	18	23	10	0	2·8
6·4	10	1·01	..	0·55	1	...	...	...	3	8	...	...	3	1	4	2	0	3	37	11	1	2·1
4·5	9	0·82	...	0·34	19	...	...	...	8	3	...	1	3	0	2	1	0	5	29	16	0	2·6
5·2	9	1·62	...	0·68	16	...	...	...	4	9	...	0	0	0	3	6	0	7	39	7	0	2·5
5·0	11	1·16	...	0·42	1	4	0	0	8	5	0	7	8	0	0	1	0	2	23	7	21	1·7
4·3	12	1·35	...	0·46	19	6	0	0	8	6	1	1	6	0	0	1	0	10	2	17	20	1·6
4·5	14	1·99	...	0·92	16	1	0	0	7	4	1	0	4	0	0	0	0	14	18	7	19	1·8
5·1	10	1·19	– 1·80	0·42	1	4	0	0	2	6	2	0	4	0	2	1	1	1	34	1	18	1·2
4·1	11	1·46	– 1·12	0·51	19	3	0	0	10	5	0	1	7	0	0	0	0	7	20	4	18	1·3
4·1	12	1·93	– 0·41	0·79	16	3	0	0	9	5	2	0	0	1	2	0	0	3	31	6	19	1·2
...	19	4·09	– 5·19	1·17	27	7	0	1	...	...	0	3	0	2	6	0	0	18	18	12	6	3·6
...	16	7·68	+ 0·73	1·73	16	8	0	0	...	...	0	3	6	2	0	0	2	14	12	16	4	3·1
...	20	6·05	– 0·11	0·76	17	5	0	0	...	...	0	4	0	0	0	0	0	18	2	20	22	3·7
6·8	12	2·30	– 2·41	0·85	1	6	0	1	1	9	0	0	6	13	13	1	1	2	17	9	0	2·8
6·0	11	2·83	– 0·64	0·58	19	7	0	0	1	5	0	1	6	8	15	0	0	5	20	2	0	3·2
6·8	10	2·88	+ 0·12	0·58	16	6	0	0	1	11	0	1	2	0	20	0	0	10	20	10	0	3·0
...	8	0·96	– 1·35	0·24	30	...	...	...	...	...	...	...	15	0	2	0	0	3	22	20	0	...
...	6	1·31	– 0·67	0·30	19	...	...	...	...	...	...	...	31	1	0	0	3	0	11	10	0	...
...	11	2·08	+ 0·24	0·55	17	...	...	...	...	...	...	..	17	0	6	0	0	4	19	16	0	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A.	B.										
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Maximum.	Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
DUNFERMLINE, (Fife.) Dr J. MACDONALD, High School.	225	Jan.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Feb.	29·620	43·5	...	...	...	54·0	27	...	...	36·3	1·9	·179	84
		Mar.	...	...	...	...	...	...	...	...	...	...	...	...	...
BUCHLYVIE, (Stirling.) Rev. JOHN A. MACDONALD.	125	Jan.	30·030	42·6	33·5	38·1	+0·8	51·0	12	15·0	24	37·9	1·5	·199	88
		Feb.	29·744	42·4	30·1	36·3	−1·5	54·2	27	13·0	1	36·0	1·7	·180	85
		Mar.	29·840	49·5	35·0	42·3	+2·6	64·0	29	26·0	12	41·2	2·0	·217	85
HELENSBURGH, (Dumbarton.) J. R. WILSON, Water Trust.	18	Jan.	...	43·7	34·7	39·2	+0·3	49·6	14	20·3	27	...	...	...	...
		Feb.	...	45·0	30·7	37·9	−0·8	51·9	19	19·5	1	...	...	...	...
		Mar.	...	49·2	35·4	42·3	+1·8	62·0	30	26·5	12	...	...	...	...
DUMBARTON, (Dumbarton.) WILLIAM DENNY AND BROTHERS.	27	Jan.	30·145	44·2	35·4	39·8	+0·6	50·0	13	19·0	24	...	...	...	...
		Feb.	29·856	43·8	32·1	38·0	−1·2	52·6	28	22·0	1, 7	...	...	...	...
		Mar.	29·963	50·1	37·4	43·8	+2·7	63·5	30	30·0	3, 10, 12	...	...	...	...
LOCHBUIE, (Argyll.) J. T. MANNARY, Gardener to The Maclaine of Lochbuie.	20	Jan.	30·156	45·0	35·7	40·4	−0·3	49·2	15	24·5	24	...	...	...	...
		Feb.	29·853	44·7	32·7	38·7	−1·1	50·1	27	23·5	1, 22	...	...	...	...
		Mar.	29·973	48·5	35·6	42·1	+1·0	57·2	30	28·5	9	...	...	...	...
AIRDS, (Argyll.) Colonel MACFIE, C.B., and ALEXANDER M'LACHLAN.	15	Jan.	...	45·7	36·6	41·2	+0·6	54·0	27	25·0	24	41·5	1·4	·232	88
		Feb.	...	44·1	34·2	39·2	−1·0	55·0	17	26·0	1	40·0	1·9	·209	85
		Mar.	...	48·6	37·8	43·2	+2·0	63·0	29	30·0	10, 11	44·0	2·7	·230	79
POLTALLOCH, Lochgilphead (Argyll.) D. S. MELVILLE, Gardener.	135	Jan.	30·032	45·0	36·5	40·7	+1·6	49·0	6, 13	20·0	24	40·5	2·0	·212	84
		Feb.	29·743	43·3	33·4	38·4	−0·6	50·0	15, 16	22·0	1	38·6	2·1	·194	83
		Mar.	29·838	48·6	37·4	43·0	+2·6	60·0	30, 31	29·0	9	42·3	1·9	·230	86
ROTHESAY, (Isle of Bute.) R. HENDERSON and D. PENNEY, Glenburn Hydropathic.	76	Jan.	30·112	44·6	36·4	40·5	+1·3	52·0	5	25·0	24	40·6	2·0	·212	85
		Feb.	29·824	44·4	33·5	39·0	−0·6	53·0	27	26·0	1, 23	38·4	2·1	·191	83
		Mar.	29·922	49·5	36·3	42·9	+2·2	61·0	29	29·0	11, 12	42·2	2·0	·227	85
GREENOCK, (Renfrew.) DANIEL MACALISTER, C.E., Water Trust.	238	Jan.	29·922	44·5	33·9	39·2	+0·5	51·5	6	20·2	24	40·4	1·7	·216	87
		Feb.	29·634	43·3	31·3	37·3	−1·4	51·0	16	23·0	1	39·0	1·8	·203	86
		Mar.	29·736	48·9	35·5	42·2	+2·0	63·2	30	27·0	10	42·2	2·2	·223	81
PAISLEY, (Renfrew.) DONALD MACLEAN, The Coats Observatory.	107	Jan.	30·064	43·6	35·9	39·7	+0·8	49·4	7	19·1	24	39·5	1·7	·209	86
		Feb.	29·766	43·6	32·3	37·9	−1·0	55·4	27	20·9	1	37·6	1·8	·191	84
		Mar.	29·872	50·6	37·1	43·9	+3·6	64·7	29	29·3	10	42·9	2·4	·226	83
KILMARNOCK, (Ayr.) GLENFIELD & KENNEDY, Ltd.	74	Jan.	30·126	43·8	35·1	39·5	...	50·0	12, 13	17·0	24	39·1	1·6	·208	87
		Feb.	29·807	43·7	31·2	37·5	...	51·5	27	15·5	1	36·6	1·6	·186	86
		Mar.	...	50·8	36·9	43·9	...	63·0	23, 24	27·5	9	43·7	2·3	·235	82
BOWHILL, (Ayr.) ALEXANDER GILLESPIE, C.E.	978	Jan.	29·126	41·1	30·7	35·9	+0·6	48·0	6	18·0	24	36·2	1·2	·191	89
		Feb.	28·835	38·6	28·5	33·6	−1·9	48·0	15	21·0	22, 23	33·7	1·2	·169	87
		Mar.	28·935	46·1	32·7	39·4	+3·2	58·0	29	26·0	11, 12	39·0	2·0	·199	84
GLASGOW, Belvidere Hosp., (Lanark.) Dr JOHN BROWNLEE.	54	Jan.	30·119	43·7	35·6	39·7	+0·7	50·4	12	17·5	24	40·0	2·0	·207	84
		Feb.	29·827	42·6	32·0	37·3	−2·2	51·8	15	18·7	1, 6	37·8	1·8	·192	85
		Mar.	29·933	50·3	36·6	43·5	+2·4	64·2	29	28·5	10	42·6	2·1	·229	85
GLASGOW, Observatory, (Lanark.) Prof. BECKER, F.R.S.E.	184	Jan.	29·982	43·3	36·1	39·7	+1·2	49·7	12	21·0	24	39·1	1·7	·206	86
		Feb.	29·682	41·8	33·1	37·5	−1·5	49·4	15, 27	21·8	1	37·1	1·8	·186	84
		Mar.	29·789	48·2	37·3	42·8	+2·4	61·5	29	28·9	10	41·9	2·2	·222	85
BOTHWELL, (Lanark.) Dr JOHN T. WILSON.	150	Jan.	...	42·9	33·9	38·4	+0·2	50·0	10	14·0	24	38·2	1·5	·201	88
		Feb.	...	42·8	30·9	36·8	−1·6	53·0	27	15·4	1	35·9	1·6	·182	86
		Mar.	...	50·4	35·8	43·1	+3·0	65·0	29	28·0	9	42·0	2·2	·221	84

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7·6	8	1·25	...	0·43	16	5	0	0	1	13	2	0	7	0	1	0	3	20	20	5	0	1·3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5·8	23	4·51	−1·13	0·90	27	6	1	1	2	3	4	1	0	2	1	4	2	17	22	11	3	3·0
4·6	17	5·22	+0·58	0·98	16, 19	6	0	0	4	3	5	3	3	0	2	1	0	16	19	11	4	3·0
4·6	20	5·20	+1·56	0·66	1	4	0	0	8	3	6	1	0	0	3	2	0	17	23	12	5	2·6
...	19	4·08	−0·84	0·78	27	...	...	...	...	...	...	...	20	0	6	0	18	0	2	16	0	...
...	15	4·37	+0·37	1·05	16	...	...	...	...	...	...	...	18	0	10	0	22	2	4	0	0	...
...	16	5·80	+2·31	0·90	16	...	...	...	...	...	...	...	0	0	10	4	20	16	8	4	0	...
...	19	3·11	−2·21	0·68	27	...	...	...	...	...	...	...	6	0	0	4	8	4	20	6	14	...
...	15	3·84	−0·36	0·67	16	...	...	...	...	...	...	...	4	0	0	6	6	8	14	4	14	...
...	18	4·48	+0·87	0·81	16	...	...	...	...	...	...	...	0	0	2	0	8	2	22	6	22	...
7·0	25	9·46	...	1·50	1	6	0	1	3	16	0	3	12	0	6	4	2	18	10	4	6	3·5
6·3	19	8·22	...	1·12	16	2	0	1	4	10	0	6	12	0	0	0	10	12	12	2	8	4·0
4·4	22	8·28	...	1·10	5	...	...	...	9	8	...	3	0	0	4	0	10	12	24	6	6	3·7
...	...	6·80	+0·82	...	...	...	...	...	...	...	...	2	8	0	4	4	14	14	18	0	0	2·6
...	...	4·67	+0·11	...	...	...	...	...	...	...	...	3	9	0	4	7	11	9	13	3	0	3·0
...	...	4·46	+0·55	...	...	...	...	...	...	...	...	1	5	0	4	7	11	11	22	2	0	2·8
7·8	21	4·08	−1·18	0·53	1	5	2	1	0	17	0	2	3	5	3	0	7	11	7	9	17	2·5
7·4	20	5·17	+1·16	0·92	18	4	1	1	2	16	0	3	5	4	1	0	7	11	8	4	16	2·6
7·8	24	5·93	+2·25	1·02	18	6	2	0	1	15	0	1	2	2	0	0	3	9	14	16	16	2·3
6·1	21	3·71	−1·21	0·55	1	3	3	1	6	10	0	2	7	2	3	3	7	7	22	8	3	1·5
6·1	18	3·57	−0·10	0·76	16	2	0	0	3	12	0	2	5	0	1	1	4	6	26	8	5	1·7
6·1	22	5·55	+2·17	0·83	16	5	3	0	2	9	0	1	1	2	3	2	8	11	27	4	4	1·9
7·8	21	4·61	−3·29	0·85	27	7	1	1	1	13	0	1	0	1	2	8	0	18	20	13	0	3·6
7·1	16	5·72	−0·47	1·23	16	8	5	0	2	9	1	2	1	1	1	6	0	15	13	18	1	3·4
7·4	20	6·28	+1·55	0·83	16	7	2	0	0	10	1	2	0	1	0	6	0	22	17	16	0	3·5
7·0	19	2·70	−2·03	0·49	1	4	2	1	3	14	7	2	8	0	3	0	11	3	23	10	4	2·5
5·4	15	3·96	+0·85	1·08	16	5	1	0	5	9	4	2	8	0	2	0	11	3	18	7	7	2·9
5·6	18	5·36	+2·61	1·30	16	6	2	0	4	8	2	1	5	0	3	0	6	11	22	9	6	2·5
...	16	3·06	...	0·64	1	...	...	...	...	...	...	0	2	0	9	4	10	15	13	8	1	2·2
...	12	3·70	...	0·76	19	...	...	...	...	...	...	0	4	2	8	6	6	8	17	5	0	2·1
...	18	4·41	...	1·12	16	...	...	...	...	...	...	0	0	0	3	4	5	18	26	6	0	2·2
...	21	4·29	...	0·72	27	...	...	...	...	...	...	...	6	2	2	6	7	23	10	6	0	...
...	15	3·40	...	0·77	16	...	...	...	...	...	...	0	5	1	3	3	17	10	10	7	0	...
...	17	4·65	...	0·75	16	...	...	...	...	...	...	...	2	0	1	7	14	18	14	6	0	...
6·7	17	2·55	−1·05	0·41	1	4	1	1	1	12	0	3	2	0	9	2	1	7	10	19	12	1·6
8·3	13	2·62	−0·19	0·64	19	4	0	0	0	14	4	2	2	4	7	2	1	0	4	22	14	1·5
8·0	17	4·15	+1·72	0·78	16	4	1	0	0	16	0	1	15	1	6	2	1	0	3	16	18	1·5
7·9	18	2·04	−1·79	0·52	1	5	1	1	0	17	0	2	1	2	2	3	6	21	19	4	4	3·3
6·9	13	2·61	−0·58	0·73	16	4	0	0	1	10	5	2	1	1	1	1	5	18	17	5	7	3·0
7·8	16	3·98	+1·47	1·04	16	7	3	0	0	13	0	1	0	1	2	2	6	13	20	4	9	2·9
...	22	2·04	−0·73	0·49	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	19	2·35	+0·23	0·52	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	18	3·56	+1·55	0·74	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
			inch.											inch.	%
LEADHILLS, (Lanark.) JAMES M'FARLANE.	1300	Jan.	...	38·9	28·5	33·7	+0·2	45·9	14	15·0	26	32·7	...	...	...
		Feb.	...	37·6	24·0	30·8	−3·1	48·5	27	11·5	5	28·7	...	...	...
		Mar.	...	44·8	30·0	37·4	+1·8	57·8	29	20·5	8	35·5	...	...	...
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. DYSON, F.R.S.	441	Jan.	29·678	42·8	34·5	38·7	+1·3	49·5	6	20·7	24	38·0	1·5	·199	87
		Feb.	29·381	42·1	32·2	37·2	−1·5	52·1	27	21·3	1	36·6	1·9	·182	84
		Mar.	29·494	49·9	37·0	43·5	+3·8	64·0	29	27·7	10	41·9	3·0	·207	78
CORSTORPHINE, (Edinburgh.)	...	Jan.	29·975	43·9	34·6	39·3	+1·7	52·9	7	16·7	24	37·9	1·9	·191	84
		Feb.	29·679	43·4	31·9	37·7	−1·0	54·3	27	20·5	5	34·3	2·0	·177	83
		Mar.	29·801	50·5	36·5	43·5	+2·9	64·3	29	28·4	14	42·1	2·9	·210	78
LEITH, (Edinburgh.) JAMES BOLAM, Nautical College.	76	Jan.	30·085	44·2	35·7	40·0	+1·1	51·7	5	23·7	24	39·4	2·2	·199	83
		Feb.	29·787	43·7	33·0	38·4	−1·3	53·6	27	24·2	6	37·8	2·5	·181	79
		Mar.	29·897	50·8	38·0	44·4	+2·7	65·5	29	29·9	10	43·2	2·9	·219	79
DALKEITH, (Edinburgh.) J. WHYTOCK, Gardener to the Duke of Buccleuch.	190	Jan.	29·942	43·0	33·4	38·2	+0·9	51·0	5	17·0	24	38·7	2·1	·194	83
		Feb.	29·673	42·4	31·1	36·8	−1·2	53·0	27	17·0	5	36·3	1·9	·179	84
		Mar.	29·772	50·9	36·0	43·5	+2·9	66·0	29	28·5	10, 12	42·7	2·8	·216	79
SMEATON, (Haddington.) JOHN BLACK, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Jan.	30·038	42·8	32·8	37·8	+0·1	51·4	12	23·0	23	37·1	1·4	·194	88
		Feb.	...	...	...	...	...	...	...	...	...	...	...	...	...
		Mar.	...	...	...	...	...	...	...	...	...	...	...	...	...
HADDINGTON, (Haddington.) D. MACRAE, Superintendent, District Asylum.	240	Jan.	29·899	43·2	...	...	...	52·0	12	...	...	38·4	1·9	·195	85
		Feb.	29·609	43·2	...	...	...	53·0	15	...	...	35·8	1·2	·189	90
		Mar.	...	...	...	...	...	...	...	...	...	...	...	...	...
MARCHMONT, (Berwick.) JOHN A. WOOD, Gardener.	500	Jan.	...	42·5	31·2	36·9	+0·1	50·0	12	19·0	26	36·6	1·4	·190	88
		Feb.	...	41·1	28·0	34·6	−2·9	56·0	27	17·0	4	35·2	1·9	·177	86
		Mar.	...	49·7	32·7	41·2	+2·3	66·0	29	23·0	12	41·6	2·6	·210	80
DUNS CASTLE, (Berwick.) JAMES REDPATH, Gardener to F. S. Hay.	500	Jan.	29·615	42·6	31·1	36·8	−0·1	50·0	12, 16	23·0	26	36·4	1·5	·186	87
		Feb.	29·320	42·5	28·4	35·5	−2·3	56·0	27	18·0	4	34·5	1·4	·172	85
		Mar.	29·439	51·4	32·9	42·2	+3·0	67·0	29	24·0	12	40·4	2·5	·201	81
BROOMLANDS, (Roxburgh.) JAMES BRUNTON.	205	Jan.	29·971	43·2	32·5	37·8	+0·6	53·0	12	20·0	26	37·8	1·8	·192	85
		Feb.	29·671	43·3	29·3	36·3	−1·8	55·0	15, 25, 27	18·0	5, 6	35·1	1·7	·171	83
		Mar.	29·779	52·6	33·8	43·2	+3·5	69·0	29	22·0	12	41·7	2·7	·209	80
WOLFELEE, (Roxburgh.) ARTHUR HUME, Gardener to J. T. S. Elliot.	537	Jan.	29·583	41·5	32·0	36·8	+1·2	49·0	12	18·0	23, 24	36·0	1·1	·189	90
		Feb.	29·302	41·1	28·1	34·6	−2·0	55·0	27	13·0	5	32·8	0·9	·168	90
		Mar.	29·412	49·6	33·2	41·4	+2·9	66·0	29	24·0	12	38·8	1·1	·213	91
DRUMLANRIG, (Dumfries.) DAVID INGLIS, Gardener to the Duke of Buccleuch.	191	Jan.	29·988	42·5	32·2	37·3	−0·3	50·0	7	15·0	24	36·8	1·3	·193	88
		Feb.	29·698	41·4	27·5	34·5	−3·5	50·1	17	11·4	1	33·8	1·2	·170	87
		Mar.	29·802	49·1	33·4	41·3	+1·6	62·0	29	20·0	12	39·6	1·6	·211	87
DUMFRIES, (Dumfries.) Rev. WILLIAM ANDSON.	60	Jan.	30·164	43·0	35·0	39·0	+0·7	50·5	12	21·8	26	38·8	1·2	·213	90
		Feb.	29·862	43·1	30·0	36·6	−2·5	55·5	25	18·0	1, 6	38·6	1·5	·205	88
		Mar.	29·968	51·7	35·6	43·7	+2·6	65·0	29	25·5	12	42·0	2·2	·221	84
CARGEN, (Kirkcudbright.) ALEX. PEACOCK, Gardener to Colonel Dudgeon.	85	Jan.	30·136	44·0	34·6	39·3	+1·0	51·0	12	22·0	24, 26, 31	38·1	1·5	·200	87
		Feb.	29·845	42·4	29·7	36·1	−3·0	53·0	27	15·0	1	35·6	1·6	·179	85
		Mar.	29·916	50·7	35·7	43·2	+2·5	62·0	29	25·0	12	41·5	1·8	·225	87
CALLY, (Kirkcudbright.) WM. THOMSON, Gardener to Col. F. Murray Baillie.	120	Jan.	30·104	43·2	35·2	39·2	+0·5	50·6	15	19·3	24	39·2	1·4	·212	88
		Feb.	29·807	43·9	31·7	37·8	−1·2	55·0	25	16·8	1	37·5	1·5	·195	87
		Mar.	29·904	49·8	35·5	42·7	+2·0	58·3	23	23·7	12	42·3	1·6	·236	88

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		incn.	inch.	inch.																		
...	23	3·74	...	0·78	7	11	1	0	...	...	6	4	7	0	6	2	12	16	4	15	0	...
...	18	4·50	...	0·98	16	15	4	0	...	...	0	2	0	0	0	9	26	8	1	12	0	...
...	20	5·78	...	2·01	16	13	5	0	...	...	2	3	2	0	0	4	21	19	2	10	4	...
...	10	0·84	−1·06	0·29	28	4	0	1	...	...	0	5	2	0	1	5	1	12	32	6	3	3·9
5·0	10	1·01	−0·64	0·40	19	6	0	0	5	3	1	8	5	0	0	0	11	9	22	5	4	4·0
4·5	11	1·83	+0·36	0·65	16	6	0	0	6	4	0	2	3	0	1	0	13	16	26	3	0	3·5
...	10	1·15	...	0·40	29	3	0	1	...	...	...	...	11	0	7	0	0	1	39	3	1	...
...	13	1·43	...	0·43	19	...	...	...	...	...	...	...	8	0	4	0	0	1	41	0	2	2·1
...	18	2·70	...	0·59	16	4	0	0	...	...	...	1	11	0	3	0	3	1	41	1	2	2·0
7·3	13	0·90	−1·09	0·37	1	4	0	1	3	17	3	1	0	0	4	2	4	8	40	2	2	4·0
5·0	10	0·97	−0 80	0·27	19	5	1	0	5	6	2	0	2	0	2	2	0	20	26	2	2	3·5
4·7	15	1·91	+0·25	0·55	16	4	2	0	9	6	1	3	2	2	0	0	0	8	44	2	4	3·5
5·2	8	0·84	...	0·35	1	4	0	1	5	6	1	2	4	1	2	1	7	16	21	9	1	1·7
5·3	11	1·14	...	0·45	19	5	0	0	5	6	2	0	2	1	0	0	0	12	26	12	3	1·5
4·3	13	1·67	...	0·57	16	6	1	0	9	6	2	0	0	3	0	2	4	12	28	12	1	1·4
...	4	0·41	−1·39	...	...	1	0	1	...	...	2	3	1	2	2	2	8	12	33	2	0	2·2
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6·1	5	0·96	...	0 60	1	1	0	1	3	16	0	1	0	1	3	1	0	18	15	24	0	1·7
4·2	6	1·07	...	0·62	12	1	0	0	11	6	0	2	7	1	1	1	0	11	6	29	0	1·8
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
5·7	8	1·30	−1·24	0·91	1	3	0	0	4	9	0	6	5	1	6	1	8	15	23	3	0	4·1
3·9	9	1·29	−1·04	0·53	12	6	0	1	9	4	0	7	7	0	5	1	7	10	19	7	0	4·4
4·1	11	1·92	−0·48	0·75	16	3	0	0	9	5	0	6	7	0	3	0	4	17	29	2	0	4·1
6·4	8	0·57	−1·89	0·29	1	3	0	0	4	12	1	1	1	0	6	1	2	17	21	14	0	1·1
5·5	10	2·29	+0·04	1·18	12	4	0	1	6	6	0	1	5	4	2	1	0	19	9	16	0	1·3
4·6	12	1·69	−0·57	0·81	16	2	0	0	12	8	2	1	1	2	1	0	3	22	25	8	0	1·2
6·3	11	1·11	−0·87	0·39	15	...	...	0	0	5	...	0	1	0	4	0	0	49	2	2	4	2·9
5·2	10	0·85	−0·92	0·35	12	...	...	1	1	1	...	2	4	2	2	0	1	33	5	3	6	3·4
5·4	15	1·47	−0·40	0·44	16	4	0	0	3	1	0	2	0	0	1	0	0	52	7	2	0	3·8
6·4	10	0·66	−3·37	0·27	1	5	0	0	0	7	0	3	2	1	8	1	1	27	19	8	0	1·7
5·1	11	1·52	−1·65	0·43	19	7	1	0	3	6	0	2	4	4	1	0	1	25	9	12	0	1·8
5·2	17	2·39	−0·66	0·98	16	6	0	0	2	3	2	1	0	2	1	0	1	21	25	12	0	2·0
...	20	2·38	−2·81	0·49	1	4	0	0	...	...	2	2	6	0	1	3	0	26	8	18	0	...
...	14	3·35	−0·71	0·81	19	4	0	0	...	...	1	2	9	0	0	2	2	12	1	30	0	...
...	21	4·67	+1·75	0·93	16	2	0	0	...	...	0	2	1	0	1	0	1	25	3	31	0	...
...	15	1·79	−1·71	0·51	1	4	1	0	...	...	0	0	1	2	4	6	5	20	13	10	1	2·8
...	13	2·89	−0·09	1·13	10	4	2	1	...	...	2	2	5	4	0	11	1	11	9	15	0	2·9
...	19	3·38	+0·84	0·90	16	4	0	0	...	...	1	0	3	2	2	9	3	23	9	11	0	2·9
6·9	9	2·02	−2·60	0·49	29	1	0	0	0	5	0	2	4	0	5	3	3	4	35	8	0	2·4
5·5	9	2·97	−0·83	0·84	10	3	0	0	0	4	0	3	15	2	4	1	4	2	19	9	0	3·2
5·8	13	4·33	+1·12	1·22	16	1	1	0	0	2	0	2	3	2	3	0	9	10	24	11	0	2·8
5·2	18	2·93	−1·91	0·52	27	4	0	0	0	3	0	1	3	14	3	10	1	9	6	16	0	1·8
3·9	16	2·51	−1·64	0·54	16	7	0	0	6	1	0	2	2	20	2	7	0	3	5	16	1	2·2
3·7	17	4·05	+0·34	0·60	16	4	3	0	9	2	1	2	2	7	0	15	0	4	10	22	2	2·4

BRIGHT SUNSHINE.

STATIONS.	1907.	SUNSHINE.		
	Months.	Total Observed.	Difference from Average.	Percentage of Possible.
		hours.	hours.	%
BALTASOUND, (Shetland.)	Jan.	10·3	...	5
	Feb.	41·0	...	16
	Mar.	113·0	...	30
DEERNESS, (Orkney.)	Jan.	25·9	− 1·4	12
	Feb.	76·7	+22·3	30
	Mar.	119·7	+15·6	33
INVERNESS, (Inverness.)	Jan.	60·4	+15·4	27
	Feb.	80·5	+15·5	31
	Mar.	148·6	+60·6	41
FORT AUGUSTUS, (Inverness.)	Jan.	16·8	− 0·3	8
	Feb.	46·5	+ 4·8	18
	Mar.	99·7	+22·1	28
CRATHES, (Kincardine.)	Jan.	70·4	...	31
	Feb.	121·3	...	47
	Mar.	162·9	...	45
BALRUDDERY, (Forfar.)	Jan.	54·9	...	24
	Feb.	107·8	...	41
	Mar.	148·7	...	41
OBAN, (Argyll.)	Jan.	26·7	...	12
	Feb.	71·0	...	27
	Mar.	121·1	...	33
PAISLEY, (Renfrew.)	Jan.	28·2	− 6·4	12
	Feb.	80·2	+28·8	30
	Mar.	151·2	+46·9	42
GLASGOW, (Lanark.)	Jan.	22·4	− 0·3	10
	Feb.	61·4	+18·1	23
	Mar.	128·1	+43·8	35
EDINBURGH, (Edinburgh.)	Jan.	48·6	+ 6·7	21
	Feb.	124·5	+49·3	47
	Mar.	159·0	+44·2	44
DUNS CASTLE, (Berwick.)	Jan.	51·8	...	22
	Feb.	106·3	...	40
	Mar.	175·8	...	48
MARCHMONT, (Berwick.)	Jan.	48·0	+ 3·4	21
	Feb.	103·9	+38·5	40
	Mar.	164·1	+56·2	45

UNDERGROUND TEMPERATURE.

STATIONS.	1907.	UNDERGROUND TEMPERATURE.				
	Months.	Depth in Inches.				
		3	12	22	36	48
		°	°	°	°	°
DUNROBIN, (Sutherland.)	Jan.	36·2	38·3	38·7	...	...
	Feb.	34·4	37·2	37·2	...	...
	Mar.	38·0	40·9	40·7	...	...
INVERNESS, (Inverness.)	Jan.	...	38·0	...	...	40·3
	Feb.	...	36·1	...	...	38·2
	Mar.	...	39·7	...	...	39·6
CRATHES, (Kincardine.)	Jan.	...	34·4	...	...	38·0
	Feb.	...	33·5	...	...	36·2
	Mar.	...	37·3	...	...	38·1
ARBROATH, (Forfar.)	Jan.	35·2	35·5	37·0	...	...
	Feb.	34·5	34·2	35·5	...	...
	Mar.	39·0	38·6	38·9	...	...
POLTALLOCH, (Argyll.)	Jan.	40·1	40·7	42·3	...	...
	Feb.	37·6	...	38·6	...	...
	Mar.	41·5	...	42·0	...	...
ROTHESAY, (Bute.)	Jan.	...	...	...	...	...
	Feb.	...	...	...	...	40·7
	Mar.	...	...	...	...	42·0
PAISLEY, (Renfrew.)	Jan.	39·1	39·4	41·6	...	...
	Feb.	37·2	37·5	39·9	...	...
	Mar.	41·4	41·6	43·0	...	...
CORSTORPHINE, (Edinburgh.)	Jan.	36·2	37·7	37·7	39·3	41·6
	Feb.	33·9	35·8	35·9	36·9	39·2
	Mar.	39·8	40·4	40·4	39·2	40·3
SMEATON, (Haddington.)	Jan.	34·8	34·5	...	...	...
	Feb.	...	...	...	...	...
	Mar.	...	...	...	...	...
MARCHMONT, (Berwick.)	Jan.	34·3	35·7	37·1	...	...
	Feb.	32·2	33·2	35·7	...	...
	Mar.	38·0	38·7	39·5	...	...

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 30th JUNE 1907.

By Mr A. Watt, M.A., F.R.S.E., under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 60 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N. ; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1907.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %.	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
Apr.	29·753	50·6	36·8	43·7	66·0	21·0	43·2	2·6	·224	81	16	2·43	6·7	*
May	29·839	54·1	40·9	47·5	79·0	23·0	47·0	2·8	·257	80	18	3·96	7·3	*
Jun.	29·681	57·6	44·6	51·1	76·0	29·5	51·1	2·7	·308	81	24	4·35	7·6	*

1907.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS.										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
Apr.	44·4	44·3	44·8	41·9	42·8	5	5	13	7	5	6	10	6	3	2·7	18	1
May	48·5	48·5	48·8	46·1	46·1	6	9	15	6	5	6	7	5	3	2·7	35	2
Jun.	52·7	52·5	52·3	51·3	49·5	3	3	6	5	7	12	15	7	2	2·6	36	3

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these returns are compared with the averages of 1856–1905, during the same months, they show the following characteristics and differences :—

APRIL 1907—

Mean Barometric Pressure, 29·753 inches; less than the average of 1856–1905 by 0·130 inch.
Mean Temperature, 43°·7 ; less by 0°·4.
Mean Daily Range of Temperature, 13°·8 ; less by 0°·7.
Mean Humidity, 81 per cent. ; less by 1 per cent.
Rain, Number of Days, 16 ; greater by 1 day.
Rain, Depth in Inches, 2·43 ; greater by 0·16 inch.
Wind, Mean Force (on Scale of 0–12), 2·7 ; being the average.
Wind, Direction of : a 3 days' excess of winds from E. and S.E.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·7 ; greater by 0·5.

MAY 1907—

Mean Barometric Pressure, 29·839 inches; less than the average of 1856–1905 by 0·105 inch.
Mean Temperature, 47°·5 ; less by 1°·5.
Mean Daily Range of Temperature, 13°·2 ; less by 2°·3.
Mean Humidity, 80 per cent. ; greater by 1 per cent.
Rain, Number of Days, 18 ; greater by 5 days.
Rain, Depth in Inches, 3·96 ; greater by 1·67 inch.
Wind, Mean Force (on Scale of 0–12), 2·7 ; greater by 0·2.
Wind, Direction of : a 4 days' excess of winds from between NE. and E.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·3 ; greater by 1·1.

JUNE 1907—

Mean Barometric Pressure, 29·681 inches; less than the average of 1856–1905 by 0·265 inch.
Mean Temperature, 51°·1; less by 3°·8.
Mean Daily Range of Temperature, 13°·0; less by 2°·8.
Mean Humidity, 81 per cent.; greater by 1 per cent.
Rain, Number of Days, 24; greater by 11 days.
Rain, Depth in Inches, 4·35; greater by 1·83 inch.
Wind, Mean Force (on Scale of 0–12), 2·6; greater by 0·2.
Wind, Direction of: a 4 days' excess of winds from between S.W. and N.W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·6; greater by 1·4.

APRIL 1907—

Hence the month of APRIL 1907 was characterised by a low mean pressure; a slightly low mean temperature, with a slightly low mean daily range; a slightly high mean rainfall; an excess of winds from E. and N.E.

The mean pressure of 29·753 inches or 0·130 inch below the normal, was 0·2 inch below the mean for March. Pressure was rather irregular for the first half of the month, whilst later the fluctuations were less considerable. As a rule depressions affecting our area were of no great depth, but on the morning of the 6th the mercury fell below 29 inches in Northern districts. At Leith the sea-level extremes were 30·251 inches on 25th and 29·179 inches on 7th.

The mean temperature was 43°·7, or 0°·4 below the normal, the nights being of average temperature but the days 0°·7 below. The differences for the individual stations were nowhere great, a few reporting a trifling excess. In most districts the maximum fell on 2nd, the actual highest being 66°·0 at Inverness, but along the East coast from the Firth of Tay to Orkney the warmest day was between 21st and 23rd. The lowest shade temperature was 21°·0 at Wolfelee on 18th, minima mostly occurring about that date under the influence of Northerly winds. At a good many stations the highest temperatures noted were lower than those for March, and at some this was true also of the minima. [*v.* the statistical tables.]

The mean rainfall was 2·43 inches, or 7 per cent. above the normal. Distribution was rather irregular and many of the stations differed but little from their averages. There were no areas of very deficient rainfall, whilst the largest excesses reported were 33 per cent. at Paisley, 36 at Lednathie and 40 at Logie Coldstone. The wettest period was from 2nd to 10th, and in some districts fully two-thirds of the month's rainfall was registered between these dates. In all except Eastern districts rain was frequent from 20th onwards, whilst over a large part of the country the period from 11th to 19th was rainless or all but so. The heaviest daily amounts noted were 1·76 inch at Balmoral on 7th, an amount greater than the entire rainfall at that place for any of the first three months of the year, and falls of about 1 inch at Lednathie on 4th, at Stronvar on 5th and at Leadhills and Kilmarnock on 6th.

The month was of a very changeable character with touches of quite wintry weather, snow, sleet or hail being experienced in most districts about 6th, 18th or 26th.

Thunder at Crieff and in West and South on 2nd; in South East and at Cargen on 8th; at Buchlyvie, Glasgow and Paisley on 10th; at Haddington on 26th and 27th; and in South on 27th.

Bright sunshine not greatly different from the average.

Auroras observed in the Hebrides on 14th; in Shetland on 17th; and at Balmoral on 19th.

MAY 1907—

Hence the month of MAY 1907 was characterised by a low mean pressure; a low mean temperature, with a very low mean daily range; an extremely high mean rainfall, with a large number of days with rain; an excess of winds from N.E. and E.

The mean pressure was 29·839 inches, or 0·105 inch below the normal. Depressions were rather numerous but of moderate depth, except at the beginning of the month, when a low pressure area of unusual depth for spring, and moving very slowly, travelled across Scotland. On 2nd over an entire area, and in the North of England and Ireland, the mercury fell below 29 inches. At Leith the sea-level extremes were 30·33 inches on 17th and 18th, and 28·73 inches on 2nd.

The mean temperature was 47°·5, or 1°·5 below the normal. The nights were of nearly average temperature but the days deficient by 2°·6. The only interruptions to the generally cold character of the month occurred about 12th and 26th, nearly all stations having their maxima around one or other of these dates. On 26th Lairg reported 79°·0 and Fort William 76°·7, but most stations failed to reach 70°·0 and the low day temperatures were notable. Thus at Aberdeen 60° was reached only on 11th, 13th, 14th and 26th, and the maximum on 30th and 31st was as low as 45°. Lowest

[*Continued on page* 310.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907. Months.	BAROMETER. Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	AIR TEMPERATURE. Mean of A. Maximum.	Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	Apr.	29·488	...	...	...	...	...	...	...	...	41·1	...	...	...
		May	29·617	...	...	...	...	...	...	...	...	43·5	...	...	...
		Jun.	29·404	...	...	...	...	...	...	...	...	47·8	...	...	...
BALTASOUND, (Shetland.) T. EDMONDSTON SAXBY, L.R.C.S.	50	Apr.	29·705	45·8	38·1	42·0	...	51·8	1	30·5	17, 18	42·2	1·1	·245	91
		May	29·820	49·0	39·8	44·4	...	55·0	11, 25	29·5	31	44·9	1·2	270	92
		Jun.	29·613	52·2	44·8	48·5	...	57·0	11	29·5	1	48·5	1·3	·308	90
LERWICK, (Shetland.) Capt. G. ALLISON, Harbour Master.	80	Apr.	29·719	45·5	38·7	42·1	−0·5	50·0	11, 23	30·0	18	42·3	2·4	·220	82
		May	29·824	49·6	41·1	45·4	−0·7	56·0	12	35·0	29, 30	45·0	2·5	·243	82
		Jun.	29·598	52·6	45·7	49·2	−1·4	57·0	12, 21	39·0	4	49·0	1·7	·305	88
DEERNESS, (Orkney.) M. SPENCE, Schoolhouse.	163	Apr.	29·555	46·4	38·6	42·5	+0·3	50·8	21, 23	29·8	18	42·7	2·1	·230	84
		May	29·665	50·6	41·3	46·0	−0·7	60·4	26	36·2	1	45·8	2·7	·248	81
		Jun.	29·457	52·6	45·2	48·9	−1·9	57·0	11	39·0	4	49·2	1·6	·310	89
KIRKWALL, (Orkney.) WILLIAM T. SINCLAIR.	80	Apr.	29·700	47·8	39·0	43·4	−0·1	53·4	1	32·0	18, 19	...	...	...	...
		May	29·818	51·9	42·1	47·0	−1·0	61·4	26	35·0	1	...	...	...	...
		Jun.	...	...	...	...	...	...	...	...	...	...	...	...	...
DUNROBIN, (Sutherland.) D. MELVILLE, Gardener, Dunrobin Castle.	16	Apr.	29·711	48·9	38·8	43·9	−0·3	58·5	23	33·0	18	43·3	2·0	·237	84
		May	29·812	51·7	41·4	46·6	−1·8	61·0	11	34·5	19	46·9	2·7	·258	81
		Jun.	29·617	57·2	45·5	51·4	−1·7	63·0	11	37·5	4	51·1	2·7	·310	82
LAIRG, (Sutherland.) Rev. JOHN K. MACLEAN, M.A.	390	Apr.	29·283	50·0	36·2	43·1	−0·9	61·5	2	22·0	23	41·8	2·1	·223	85
		May	29·388	55·7	38·6	47·2	−0·6	79·0	26	30·0	21	46·5	3·3	·242	77
		Jun.	29·211	58·8	42·4	50·6	−3·5	71·0	9	32·5	4	50·0	2·7	·293	82
GLENCARRON, (Ross.) D. D. MUNRO.	504	Apr.	29·184	48·7	36·5	42·6	−0·1	62·0	2	28·9	18	42·1	2·6	·215	81
		May	29·276	54·1	40·4	47·3	−0·4	73·6	26	30·9	19	46·4	3·0	·248	80
		Jun.	29·110	54·9	42·8	48·9	−4·1	65·9	9	32·8	4	49·4	3·4	·272	77
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	Apr.	29·555	...	...	...	...	...	...	...	...	44·2	...	...	...
		May	29·649	...	...	...	...	...	...	...	...	47·4	...	...	
		Jun.	29·488	...	...	...	...	...	...	...	...	50·3	...	...	.
KINGUSSIE, (Inverness.) Dr WALTER DE WATTEVILLE.	828	Apr.	28·844	49·4	33·6	41·5	0·0	60·8	2	22·5	18	41·4	3·3	·196	76
		May	28·936	54·8	37·9	46·4	−0·5	73·0	27	27·4	19	46·0	3·5	·235	76
		Jun.	28·782	56·0	41·2	48·6	−5·3	63·8	17	32·1	23	49·5	3·4	·272	77
INVERNESS, (Inverness.) W. G. MACCONNACHIE, M.A.	114	Apr.	29·612	51·7	39·2	45·5	+0·2	66·0	2	30·8	16	46·0	2·7	·231	75
		May	29·712	53·7	42·7	48·2	−1·0	65·9	18	36·2	21	48·7	3·9	·253	74
		Jun.	29·544	58·1	46·4	52·3	−2·4	68·9	9	38·0	4	52·2	3·0	·313	80
FORT AUGUSTUS, (Inverness.) Rev. CYRIL VON DIECKHOFF, St Benedict's Priory.	78	Apr.	29·665	51·3	37·3	44·3	−0·1	62·9	2	26·1	18	43·9	2·8	·227	79
		May	29·749	53·9	41·2	47·6	−2·1	67·7	13	31·0	19	47·5	3·8	·212	74
		Jun.	29·580	56·9	44·6	50·8	−4·6	67·3	9	34·6	4	51·2	2·9	·304	81
FORT WILLIAM, (Inverness.) W. T. KILGOUR.	38	Apr.	29·708	51·0	37·4	44·2	−0·9	63·0	2	27·4	18	43·5	2·7	·225	79
		May	29·776	56·4	41·5	49·0	−0·9	76·7	26	30·4	19	48·4	2·7	·275	82
		Jun.	29·627	55·9	45·2	50·6	−4·8	64·6	10	36·0	4	50·4	1·7	·323	89
GORDON CASTLE, (Banff.) C. WEBSTER, Gardener to the Duke of Richmond and Gordon.	107	Apr.	29·621	51·2	36·1	43·7	−0·7	60·0	23	28·5	13	44·4	3·3	·222	76
		May	29·720	55·0	40·6	47·8	−1·0	68·2	26	31·0	29	48·0	3·4	·255	77
		Jun.	29·534	60·4	44·1	52·3	−2·3	71·5	9	38·0	4, 23, 26	52·2	3·7	·297	76
BALMORAL (Aberdeen.) J. MICHIE, M.V.O., and JOHN M. TROUP.	927	Apr.	28·735	48·1	32·9	40·5	−0·2	56·0	1	25·0	16, 19	...	...	...	..
		May	28·835	50·9	...	...	...	60·0	8, 25	...	...	...	...	...	..
		Jun.	...	55·4	39·9	47·7	−3·9	62·0	15	32·0	23	...	...	...	..

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
7·0	...	...	...	...	...	3	0	0	2	9	0	1	11	3	18	10	10	7	3	8	0	3·8
7·1	...	...	...	...	...	3	0	0	1	11	2	2	13	11	11	8	6	8	4	5	1	3·6
8·9	...	...	...	...	...	0	0	0	1	22	10	0	5	7	7	8	14	5	4	5	5	3·2
5·6	22	2·25	...	0·36	22	3	2	0	2	5	1	4	12	4	16	6	12	3	5	1	1	3·2
5·8	23	1·42	...	0·26	1, 2	4	5	1	2	4	4	1	13	14	11	8	7	1	7	1	0	2·8
8·1	24	2·60	...	0·60	5	0	0	0	0	14	10	0	3	7	7	20	4	2	9	8	0	2·9
...	16	1·93	...	0·50	7	...	...	...	...	...	...	7	7	2	11	10	20	1	3	6	0	4·5
...	15	1·49	...	0·26	7	...	...	...	...	...	...	1	14	11	12	6	13	0	0	5	1	3·9
...	16	3·05	...	0·58	5	...	...	...	...	...	...	0	4	2	8	7	23	2	7	6	1	3·8
6·6	15	1·79	− 0·16	0·35	20	3	1	1	0	9	1	7	4	2	12	14	9	5	6	6	2	5·6
6·7	10	1·16	− 0·57	0·39	3	0	0	0	1	10	3	2	12	8	16	7	6	1	4	6	2	5·1
7·4	19	3·70	+ 1·86	0·81	22	0	0	1	0	13	10	5	5	3	3	14	12	4	8	11	0	5·0
...	18	1·66	− 0·48	0·35	20	...	...	...	...	...	...	2	9	0	25	0	1	0	25	0	0	3·3
...	12	1·78	− 0·01	0·81	8	...	...	...	...	...	...	3	22	2	24	0	6	0	6	2	0	4·3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	15	2·20	+ 0·28	0·37	15	2	0	0	...	...	0	0	1	0	31	0	1	3	13	10	1	2·2
...	12	2·18	+ 0·29	0·78	31	0	0	1	...	...	0	0	1	4	34	4	2	2	5	7	3	2·2
...	19	4·89	+ 2·90	0·68	1, 24	0	0	0	...	...	0	0	3	1	23	1	4	3	21	3	1	2·4
7·8	27	2·54	+ 0·32	0·41	30	2	1	0	1	14	0	2	1	3	20	6	1	1	16	6	6	3·5
7·6	24	3·36	+ 1·21	0·91	23	0	2	1	1	16	1	0	1	1	26	7	1	2	10	12	2	3·8
7·9	29	4·20	+ 2·04	0·47	1	0	0	3	0	15	0	0	4	1	15	5	5	1	16	13	0	3·6
6·5	23	4·70	− 0·43	0·49	28	0	0	0	1	11	0	0	9	0	25	0	1	0	25	0	0	3·3
6·1	17	3·92	− 0·56	0·60	23	0	0	0	2	11	0	0	17	0	27	0	0	0	18	0	0	3·3
8·8	29	7·03	+ 2·96	1·10	19	0	1	0	0	25	1	0	8	0	18	0	1	0	33	0	0	3·1
7·2	18	2·67	+ 0·09	0·58	20	1	0	0	0	8	1	2	6	2	10	10	10	6	9	7	0	4·0
6·2	16	2·35	+ 0·24	0·58	2	1	0	0	5	9	2	0	4	11	27	1	10	1	4	2	2	3·3
7·4	23	4·75	+ 2·64	0·64	1	0	0	0	2	11	5	0	9	6	2	4	7	12	9	9	2	3·2
6·8	20	2·02	+ 0·10	0·46	8	...	...	...	0	8	...	...	...	...	...	...	...	...	...	...	...	...
7·4	15	1·99	+ 0·21	0·70	21	...	...	...	1	14	...	...	...	...	...	...	...	...	...	...	...	...
8·5	25	2·26	+ 0·28	0·45	5	...	...	...	0	21	...	...	...	...	...	...	...	...	...	...	...	...
7·2	12	1·58	+ 0·10	0·59	7	1	3	0	0	12	0	1	2	9	18	1	4	7	14	5	0	2·1
7·6	14	2·17	+ 0·37	0·54	21	0	2	0	0	13	2	1	3	20	16	2	0	8	9	4	0	2·1
8·0	23	4·43	+ 2·56	1·22	1	1	2	0	0	16	2	0	5	6	10	2	5	7	21	4	0	1·7
6·6	18	2·19	− 0·11	0·47	5	3	0	1	2	12	2	1	3	13	6	2	6	12	4	2	12	2·7
7·8	14	2·56	+ 0·38	0·36	21	0	2	0	1	15	3	0	1	33	0	1	3	9	2	1	7	3·3
8·6	24	4·01	+ 1·60	0·52	19	0	1	1	0	19	1	0	1	17	0	0	2	28	3	0	9	2·8
7·3	22	3·77	− 0·15	0·92	5	1	1	1	0	13	3	0	0	14	3	0	4	12	13	0	14	1·4
7·3	18	5·23	+ 1·70	0·74	8	0	0	0	1	15	2	0	0	21	5	2	2	14	5	3	10	1·7
9·2	28	6·21	+ 2·75	0·84	26	0	1	1	0	23	2	0	0	6	2	0	2	27	10	4	9	1·9
6·9	14	1·47	− 0·31	0·25	7	1	1	0	0	11	0	0	2	6	8	13	11	9	4	7	0	1·9
8·1	15	2·24	+ 0·20	0·54	21	0	1	1	1	18	0	0	4	13	6	17	5	5	3	9	0	1·7
7·9	23	5·18	+ 3·18	1·14	24	0	1	3	0	12	0	0	1	3	2	15	7	15	6	11	0	2·0
7·8	22	4·18	...	1·76	7	3	0	0	0	14	0	0	2	0	14	3	8	6	26	1	0	...
8·2	18	4·41	...	1·15	23	0	0	1	1	19	0	0	5	1	4	10	7	8	24	3	0	...
8·3	21	8·00	...	0·69	5	0	0	3	1	18	1	0	3	1	7	4	6	6	28	5	0	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
LOANHEAD, (Aberdeen.) ALEX. FARQUHARSON.	747	Apr.	28·938	49·1	34·7	41·9	−0·6	61·1	1	27·8	19	42·1	2·2	·222	83
		May	29·030	53·5	38·7	46·1	−1·2	70·5	13	30·9	5	46·1	2·5	·256	82
		Jun.	28·861	57·6	42·4	50·0	−3·7	65·0	9, 10	35·2	4	50·7	2·7	·302	82
TILLYPRONIE, (Aberdeen.) ROBT. LITTLEJOHN, Gardener to Sir John F. Clark, Bt.	1120	Apr.	28·526	47·6	33·4	40·5	−0·3	58·3	1	26·0	18	39·4	2·2	·199	83
		May	28·626	52·8	36·7	44·8	−0·5	67·5	13	30·5	19	43·2	2·5	·226	81
		Jun.	28·460	56·3	40·9	48·6	−3·2	62·8	9, 17	33·6	5	48·0	2·6	·272	82
ABERDEEN, (Aberdeen.) PETER HARPER, Superintendent, Duthie Park.	44	Apr.	29·704	51·4	37·5	44·5	+0·2	63·4	23	28·0	19	43·6	2·9	·222	78
		May	29·792	54·2	41·2	47·7	−0·8	67·2	14	36·0	29	47·6	3·1	·258	79
		Jun.	29·618	59·2	46·0	52·6	−2·0	67·0	9	38·0	4	52·6	2·2	·337	85
ABERDEEN,* (Aberdeen.) King's College, The Meteorological Office.	90	Apr.	29·653	49·2	38·9	44·1	+0·3	63·0	23	31·0	16	44·3	2·5	·237	81
		May	29·747	52·8	42·3	47·6	−0·7	65·0	13	36·0	5	47·8	3·0	·263	80
		Jun.	29·565	58·1	45·7	51·9	−2·0	66·0	15	38·0	4	53·0	3·0	·322	80
PETERHEAD, (Aberdeen.) Dr W. H. M'WALTER, H.M. Prison.	100	Apr.	29·649	48·2	37·7	43·0	−0·8	59·0	23	30·5	18	43·5	2·2	·235	82
		May	29·741	50·7	41·4	46·1	−2·1	58·7	14	35·5	5	46·2	2·3	·261	84
		Jun.	29·557	55·3	45·0	50·2	−3·6	63·0	27	39·0	3	52·2	3·9	·292	75
CRATHES, (Kincardine.) J. SMITH, Pinewood.	145	Apr.	29·603	50·1	35·3	42·7	−0·2	61·2	23	26·2	16	43·7	2·8	·225	78
		May	29·698	54·5	40·2	47·4	−0·5	68·2	13	30·5	5	47·1	2·8	·259	80
		Jun.	29·517	59·2	43·9	51·6	−2·7	65·0	9.15.17	35·3	4	52·1	3·0	·312	80
MONTROSE, (Forfar.) (Royal Asylum), JAMES MASSON.	200	Apr.	29·542	48·2	36·7	42·5	−1·2	59·0	24	29·0	16, 18	42·5	2·3	·224	82
		May	29·627	51·9	40·9	46·4	−1·7	61·0	13	36·0	5,18,29	46·5	2·8	·253	81
		Jun.	29·461	57·0	45·1	51·1	−3·3	63·0	15	36·0	4	51·0	2·2	·318	85
ARBROATH, (Forfar.) JAMES CAMPBELL, "For the Natural History Assoc. of Arbroath."	68	Apr.	29·683	49·8	38·2	44·0	−0·4	60·0	24	30·0	18	44·1	2·7	·231	79
		May	29·773	51·9	41·9	46·9	−1·8	60·0	11, 14	36·0	5	47·0	2·9	·255	80
		Jun.	29·606	57·8	45·3	51·6	−2·9	68·0	17	35·0	4	51·8	2·8	·313	81
LEDNATHIE, (Forfar.) WM. MORRISON, Gardener to Patrick Stormonth Darling.	720	Apr.	...	48·0	34·2	41·1	−0·9	55·8	1	23·8	19	41·0	2·6	·204	80
		May	...	53·5	37·6	45·6	−1·5	66·0	26	23·0	2	45·2	3·0	·235	78
		Jun.	...	56·8	40·9	48·9	−4·3	66·0	17	32·5	4	49·6	3·0	·282	80
DUNDEE, (Forfar.) Eastern Necropolis, J. CARNOCHAN, Curator.	164	Apr.	29·580	50·4	37·7	44·1	−0·5	62·2	23	28·3	19	42·9	2·0	·234	85
		May	29·667	54·7	41·1	47·9	−1·4	67·9	13	35·3	29	46·5	2·4	·261	83
		Jun.	29·502	60·1	45·6	52·9	−2·8	70·6	17	35·3	4	51·9	2·5	·321	84
DUNDEE, Harbour, (Forfar.) J. H. THOMPSON, Harbour Trust.	20	Apr.	29·737	50·2	39·6	44·9	−1·4	62·0	23	31·5	18	...	...	...	...
		May	29·828	54·0	43·0	48·5	−1·8	66·0	13	33·8	19	...	...	...	...
		Jun.	...	60·1	47·4	53·8	−2·9	70·2	17	38·4	4	...	...	...	...
BALRUDDERY, (Forfar.) GEORGE DAVIE, Gardener to J. Martin White.	280	Apr.	29·448	51·1	36·6	43·9	−0·8	60·0	23	28·0	18, 19	43·3	2·9	·220	78
		May	29·540	54·5	40·3	47·4	−1·9	64·0	11,14,26	33·0	19	47·2	3·0	·255	79
		Jun.	29·378	59·3	44·2	51·8	−3·9	68·0	9, 17	33·0	4	51·8	3·1	·307	79
PERTH, (Perth.) JOHN LESLIE, Gardener to Henry Coates.	105	Apr.	29·633	52·0	36·3	44·2	−1·0	62·0	23	25·0	18	43·4	2·6	·226	80
		May	29·722	55·4	40·0	47·7	−1·9	67·5	13	31·0	21	47·4	2·8	·262	81
		Jun.	29·572	60·0	44·1	52·1	−3·8	70·5	17	33·5	4	51·5	1·9	·331	87
STRONVAR, (Perth.) D. L. MACKINTOSH, Gardener to James Carnegie.	422	Apr.	...	50·8	35·1	43·0	−0·9	59·0	2	21·0	18	42·0	2·7	·212	80
		May	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jun.	...	...	...	...	...	...	...	...	...	...	...	...	...
CLATHICK, (Perth.) JAMES HENDRY.	300	Apr.	29·429	51·7	35·8	43·8	−0·6	59·0	23	23·7	18	43·5	2·8	·223	78
CRIEFF, (Perth.) The Hydropathic. DR MEIKLE AND J. REID.	436	May	29·358	54·1	...	...	...	66·0	14, 26	...	...	46·5	2·7	·256	82
		Jun.	29·209	58·1	...	...	...	66·0	9, 17	...	...	50·7	2·9	·297	81

* At 8 a.m. and 6 p.m.

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
6·5	21	2·89	+ 0·83	0·46	4	2	0	0	3	12	0	3	0	5	5	20	1	5	4	19	1	2·5
7·7	20	6·07	+ 3·92	1·89	23	0	0	1	1	16	0	0	4	6	0	9	0	5	5	12	21	2·0
8·0	21	4·54	+ 2·48	0·69	2	0	0	1	3	18	0	1	1	2	1	13	1	9	10	16	7	2·9
6·6	20	2·74	+ 0·58	0·39	7	3	0	0	0	12	2	3	13	4	6	8	5	5	9	10	0	5·0
7·6	24	5·94	+ 3·90	1·78	23	0	0	0	1	13	1	3	16	6	2	14	4	5	7	8	0	4·6
7·5	24	4·14	+ 1·88	0·71	5	0	0	2	0	13	5	3	5	1	2	10	6	6	9	21	0	4·6
5·6	15	1·58	− 0·53	0·26	20	0	0	0	1	5	1	1	5	2	7	13	8	11	7	7	0	2·8
6·8	17	3·87	+ 1·81	0·88	21	0	0	1	2	11	2	0	4	13	6	3	10	8	10	7	1	2·5
6·6	20	3·77	+ 1·97	0·40	9	0	0	2	0	6	1	0	2	2	0	11	13	12	3	15	2	2·6
6·5	16	1·35	− 0·74	0·23	5	2	4	0	0	7	1	0	4	3	11	13	11	5	6	7	0	...
7·8	21	3·48	+ 1·34	0·78	21	0	3	1	1	15	2	0	9	10	11	5	12	4	3	7	1	...
7·4	22	3·78	+ 1·93	0·41	5	0	0	2	0	12	3	0	4	2	5	9	16	9	5	10	0	...
...	...	0·63	− 1·24	...	...	1	0	0	...	...	1	0	5	0	2	12	18	0	1	5	17	2·3
...	...	2·06	+ 0·49	...	...	0	1	0	...	...	2	1	11	1	10	2	15	1	0	13	9	2·2
...	...	2·93	+ 0·93	...	...	0	0	0	...	...	3	0	5	1	4	4	25	1	0	11	9	1·6
6·4	17	1·83	...	0·44	5	2	3	0	3	10	1	1	4	1	9	15	8	9	7	5	2	2·7
7·9	18	4·83	...	1·19	23	0	3	1	1	20	2	2	6	7	9	9	4	7	5	10	5	2·4
7·2	22	4·07	...	0·58	12	0	0	5	2	14	0	0	4	2	4	5	7	12	13	11	2	2·5
...	12	1·57	− 0·50	0·34	10	2	2	0	...	...	1	1	6	12	11	7	3	9	6	6	0	3·8
...	14	5·73	+ 3·85	1·28	23	0	2	3	...	...	1	0	10	19	5	7	7	11	1	2	0	3·4
...	20	4·56	+ 2·61	0·84	20	0	1	3	...	...	0	1	10	3	2	14	10	9	8	4	0	3·5
6·6	13	1·93	+ 0·17	0·48	7	3	4	1	2	10	2	6	4	11	17	9	2	5	6	6	0	3·2
7 5	20	5·36	+ 3·51	1·54	23	0	1	2	1	14	2	4	7	14	11	8	9	4	6	3	0	3·1
7·2	24	3·66	+ 1·81	0·70	9	0	1	1	0	9	0	4	0	4	8	9	6	8	19	6	0	3·2
6·4	18	4·19	+ 1·11	1·18	4	3	2	0	1	11	2	1	5	7	6	17	2	2	8	13	0	3·2
7·1	20	5·62	+ 3·04	0·90	31	3	3	2	1	12	2	1	13	7	5	14	1	4	8	9	1	2·8
7·6	24	6·26	+ 3·51	0·80	12	0	2	6	0	14	6	0	1	0	3	14	3	5	16	16	2	3·0
8·6	15	1·88	− 0·04	0·43	3	0	1	0	0	17	1	2	1	6	2	26	0	7	10	8	0	3·0
8·6	19	4·23	+ 2·36	1·06	31	0	0	2	1	19	1	2	0	15	14	10	0	12	5	6	0	2·8
8·9	26	4·22	+ 2·23	0·58	12	0	0	3	0	20	0	1	0	5	3	12	0	23	7	10	0	2·5
6·4	15	1·70	...	0·42	3	...	...	...	2	12	...	2	2	7	22	4	0	7	11	6	1	3·0
6·6	15	3·52	...	0·97	31	...	...	...	2	9	..	2	4	7	24	3	3	12	8	1	0	2·6
7·2	25	3·57	...	0·47	12	...	...	...	2	14	...	1	0	4	13	2	1	11	27	2	0	2·6
6·1	15	1·94	...	0·54	3	0	0	0	4	11	0	1	6	12	7	4	0	4	5	5	17	2·0
7·0	19	4·04	...	0·81	31	0	0	1	2	13	0	1	8	9	10	1	2	9	9	2	12	1·8
7·3	23	3·98	...	0·61	12	0	0	2	0	12	0	0	4	4	3	3	4	9	12	10	11	1·7
6·2	10	1·78	− 0·34	0·57	3	0	0	0	5	11	0	0	4	4	5	18	1	2	15	1	10	1·2
6·9	15	3·04	+ 0·84	0·68	21	0	0	1	2	13	0	0	4	2	13	10	5	2	12	1	13	1·0
6·5	22	4·66	+ 2·55	0·48	12	0	0	2	2	10	0	1	1	2	4	2	7	6	24	2	12	1·1
...	19	4·30	+ 0·03	1·18	5	2	0	1	...	...	...	...	0	12	10	4	0	18	10	6	0	4·0
...	...	5·01	+ 1·10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	6·64	+ 2·70	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6·8	10	2·57	+ 0·32	0·78	5	0	0	1	0	10	1	1	0	4	28	0	0	1	19	8	0	3·1
...	17	4·29	...	0·73	31	1	0	1	...	...	0	0	0	9	26	3	2	6	14	0	2	...
...	20	4·57	...	0·68	12	0	0	3	...	...	1	0	2	0	16	2	5	1	26	8	0	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°			°	inch.	%
CUPAR, (Fife.)	10	Apr.	...	49·8	37·2	43·5	-0·6	61·0	23	27·0	19	...	...	...	...
Dr TURNBULL, Fife and		May	...	53·7	40·4	47·1	-2·0	63·0	11	32·0	28, 29	...	...	...	...
Kinross Asylum.		Jun.	...	58·6	45·0	51·8	-3·9	67·0	17	34·0	4	...	...	...	...
BUCHLYVIE, (Stirling.)	125	Apr.	29·617	52·7	36·4	44·6	+0·8	60·0	16	24·0	18	44·0	2·6	·232	80
Rev. JOHN A. MACDONALD.		May	29·694	56·6	40·4	48·5	-0·8	76·0	27	31·0	18	47·6	2·5	·270	83
		Jun.	29·554	59·9	45·2	52·6	-2·8	69·5	17	38·0	23	51·8	2·4	·323	84
HELENSBURGH,	18	Apr.	...	52·4	37·2	44·8	-0·4	63·6	2	25·5	18	...	...	...	...
(Dumbarton.)		May	...	55·6	41·0	48·3	-1·8	70·0	28	32·0	21	...	...	...	...
J. R. WILSON, Water Trust.		Jun.	...	56·9	45·1	51·0	-4·4	64·0	18	37·0	23	...	...	..	...
DUMBARTON, (Dumbarton.)	27	Apr.	29·721	53·3	38·3	45·8	-0·1	64·5	3	29·5	18	...	...	...	...
WILLIAM DENNY AND		May	29·795	56·6	42·8	49·7	-0·6	71·0	27, 28	33·8	18	...	...	...	...
BROTHERS.		Jun.	29·661	57·5	46·9	52·2	-4·0	67·0	10	40·4	23	...	...	...	...
LOCHBUIE, (Argyll.)	20	Apr.	...	51·2	37·4	44·3	-0·7	57·2	11	26·2	18	...	...	...	...
J. T. MANNARY, Gardener to		May	29·793	54·9	41·2	48·1	-1·9	70·0	27	32·4	3	...	...	...	...
The Maclaine of Lochbuie.		Jun.	29·665	55·6	44·0	49·8	-5·2	59·9	13	38·0	4	...	...	...	...
AIRDS, (Argyll.)	15	Apr.	...	51·8	38·5	45·2	-0·6	64·0	2	32·0	18, 19	...	...	...	...
Colonel MACFIE, C.B., and		May	...	56·7	42·1	49·4	-0·6	74·0	26	32·0	2	...	...	...	...
ALEXANDER M'LACHLAN.		Jun.	...	55·8	45·3	50·6	-4·4	64·0	10	39·0	4	...	...	...	...
POLTALLOCH, Lochgilphead	135	Apr.	29·600	52·2	38·7	45·5	+0·5	59·0	4	25·0	18	43·8	2·3	·237	82
(Argyll.)		May	29·670	56·6	41·3	49·0	-0·9	72·0	27	32·0	19, 21	48·1	2·5	·282	83
D. S. MELVILLE, Gardener.		Jun.	29·551	56·7	44·9	50·8	-4·9	62·0	18	38·0	4, 5	50·7	2·0	·320	87
ROTHESAY, (Isle of Bute.)	76	Apr.	29·678	52·0	38·2	45·1	-0·2	61·0	2	30·0	18, 30	44·2	2·9	·228	78
R. HENDERSON and D.		May	29·737	55·6	42·1	48·9	-1·0	68·0	27	37·0	2	48·0	2·7	·270	81
PENNEY, Glenburn Hydropathic.		Jun.	29·620	57·5	44·8	51·2	-4·0	64·0	17	40·0	23	50·5	2·1	·314	86
GREENOCK, (Renfrew.)	238	Apr.	29·506	51·7	37·2	44·5	+0·0	64·5	8	30·0	18	44·7	3·2	·227	77
DANIEL MACALISTER, C.E.,		May	29·575	54·6	40·9	47·8	-1·5	68·2	27	33·2	2	47·9	3·5	·253	77
Water Trust.		Jun.	29·436	57·1	44·6	50·9	-4·1	64·5	10	39·0	25	51·2	2·7	·309	82
PAISLEY, (Renfrew.)	107	Apr.	29·634	52·8	38·5	45·7	+0·6	65·6	2	31·1	7	44·9	3·1	·231	78
DONALD MACLEAN,		May	29·707	55·4	42·8	49·1	-1·6	70·7	27	35·9	18	48·9	3·4	·267	78
The Coats Observatory.		Jun.	29·573	58·8	46·8	52·8	-3·6	68·2	9	40·0	25	52·4	2·9	·319	81
KILMARNOCK, (Ayr.)	74	Apr.	...	52·5	36·7	44·6	...	63·0	2	28·0	26	44·8	3·0	·232	79
GLENFIELD & KENNEDY, Ltd.		May	...	55·6	41·9	48·8	...	66·0	26	33·0	29	49·5	3·6	·269	75
		Jun.	...	58·2	45·7	52·0	...	68·0	9	34·0	25	52·3	2·8	·320	81
BOWHILL, (Ayr.)	978	Apr.	28·691	48·2	32·9	40·6	-0·5	58·0	2	25·0	18	40·3	2·4	·202	81
ALEXANDER GILLESPIE, C.E.		May	28·771	53·1	38·8	46·0	-0·5	63·0	24, 25	31·0	29	44·9	2·6	·240	81
		Jun.	28·639	53·7	41·6	47·7	-4·7	65·0	9	36·0	24, 25	47·9	1·9	·286	87
GLASGOW, Belvidere Hosp.,	54	Apr.	29·696	52·3	38·6	45·5	-0·3	64·5	2	33·3	18	44·7	3·1	·229	77
(Lanark.)		May	29·763	55·6	43·0	49·3	-1·1	70·0	27	36·2	18	48·5	3·4	·261	77
Dr JOHN BROWNLEE.		Jun.	29·632	59·0	46·7	52·9	-3·3	72·8	9	40·8	25	52·4	2·6	·326	83
GLASGOW, Observatory,	184	Apr.	29·553	50·5	39·0	44·8	-0·3	62·5	2	31·9	18	44·2	3·2	·222	76
(Lanark.)		May	29·621	53·8	42·8	48·3	-1·9	68·8	27	36·8	2	47·8	3·4	·254	77
Prof. BECKER, F.R.S.E.		Jun.	29·489	56·9	46·6	51·8	-4·0	69·9	9	41·0	25	51·2	2·6	·311	83
BOTHWELL, (Lanark.)	150	Apr.	...	51·7	36·6	44·2	-0·6	65·0	2	29·0	18	43·8	2·7	·228	79
Dr JOHN T. WILSON.		May	...	55·1	41·6	48·4	-1·6	70·0	27	32·0	18	47·8	3·1	·260	79
		Jun.	...	58·9	46·0	52·5	-3·1	70·0	9	36·0	23	51·9	3·1	·308	80

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
5·8	12	2·37	+0·49	0·49	4	...	...	...	0	6	...	...	5	2	20	5	0	2	8	18	0	...
6·0	17	3·61	+1·72	0·80	22	...	...	...	0	7	...	...	1	4	32	3	0	6	8	8	0	...
6·3	21	3·69	+1·79	0·70	1	...	...	...	0	7	...	...	12	0	12	3	2	5	16	10	0	...
5·1	17	3·40	+0·68	0·78	20	0	1	3	2	3	4	0	3	3	16	8	1	9	11	9	0	2·8
6·7	22	4·72	+1·94	0·61	2	2	0	2	2	11	5	1	0	5	25	7	2	13	6	4	0	3·4
7·0	29	4·88	+1·61	0·50	26	0	2	2	0	7	9	0	0	1	13	2	2	10	19	11	2	3·3
...	14	2·70	+0·19	0·65	6	...	...	...	...	...	...	...	0	2	32	4	8	4	6	4	0	...
...	18	4·30	+1·55	0·50	2	...	...	...	...	...	...	...	2	20	14	8	2	10	4	2	0	...
...	26	5·21	+2·41	0·62	12	...	...	...	...	...	...	...	0	4	14	2	8	12	18	2	0	...
...	13	2·38	−0·28	0·67	6	...	...	...	...	...	...	...	4	4	12	4	4	0	16	0	16	...
...	20	5·20	+2·48	0·64	2	...	...	...	...	...	...	...	2	2	18	2	10	4	6	2	16	...
...	26	3·39	+0·69	0·36	4	...	...	...	...	...	...	...	6	0	4	0	10	4	26	0	10	...
...	17	4·73	...	0·82	19	0	0	0	...	...	...	0	6	0	18	6	6	8	10	4	2	3·2
...	18	7·24	...	1·52	29	0	0	2	...	...	...	0	4	10	18	4	6	4	10	0	6	2·9
...	23	6·76	...	0·81	2	0	0	0	...	...	...	0	4	6	12	4	4	16	10	4	0	3·2
...	...	3·20	+0·42	...	...	...	...	...	...	...	...	0	18	0	21	3	5	3	10	0	0	2·8
...	...	4·17	+1·02	...	...	...	...	...	...	...	...	0	13	0	25	1	9	8	6	0	0	2·6
...	...	5·43	+1·96	...	...	...	...	...	...	...	...	0	10	1	3	3	12	7	24	0	0	2·3
6·9	18	3·35	+0·67	0·67	5, 7	1	0	0	0	11	0	0	4	3	3	9	8	6	6	3	18	2·3
6·6	18	4·17	+1·58	0·62	23	0	1	0	2	12	0	4	5	10	6	5	11	6	6	2	11	3·0
8·2	28	4·62	+1·44	0·39	2, 14	0	0	0	1	18	0	0	3	2	0	7	8	10	14	9	7	2·5
5·7	17	3·42	+0·68	0·86	5	0	0	1	3	9	2	0	5	3	17	1	6	3	16	4	5	2·3
7·1	20	5·32	+2·62	0·63	30	0	0	2	1	11	3	0	2	7	23	1	8	3	7	6	5	2·4
7·9	27	4·85	+1·75	0·61	26	0	0	0	1	18	0	0	3	3	4	2	7	10	20	7	4	2·9
7·6	19	4·03	+0·57	0·98	5	1	1	0	0	13	1	0	0	14	2	13	0	8	8	15	0	3·5
7·7	21	6·27	+3·04	0·72	1,30	0	2	2	0	13	0	0	0	16	6	14	0	11	7	8	0	3·2
8·5	28	5·41	+1·97	0·63	12, 26	0	0	0	0	18	1	0	0	4	2	8	0	8	28	10	0	3·3
6·2	14	2·62	+0·65	0·74	6	0	0	1	3	11	7	0	15	3	13	3	6	5	2	9	4	2·3
7·3	20	4·99	+2·82	0·76	2	2	0	2	1	13	8	0	8	1	27	2	10	1	8	2	3	2·4
7·9	26	3·46	+1·24	0·43	4	0	2	1	0	13	2	0	5	0	10	0	10	5	20	4	6	2·0
...	13	2·52	...	1·00	6	...	...	...	...	...	...	0	1	1	16	9	4	13	12	4	0	2·3
...	19	3·90	...	0·57	30	...	...	...	...	...	...	0	2	9	15	4	5	4	17	4	2	2·4
...	27	3·86	...	0·45	4	...	...	...	...	...	...	0	0	0	7	9	4	11	24	5	0	2·3
7·2	13	3·36	...	0·77	6	...	...	...	0	7	...	0	3	2	10	15	10	3	5	12	0	2·2
8·5	19	4·34	...	0·85	30	...	...	...	0	18	...	0	3	3	15	13	10	8	4	6	0	2·3
8·6	26	5·18	...	0·61	4	...	...	...	0	19	...	0	2	1	3	8	12	16	13	5	0	2·4
8·3	14	2·05	+0·17	0·42	5	0	0	1	0	15	0	0	9	18	12	0	0	2	4	10	5	1·6
8·6	20	4·41	+2·16	0·66	21	0	0	2	0	19	0	0	7	17	11	2	1	1	0	10	13	1·7
8·8	25	4·13	+1·58	0·75	4	0	1	1	0	22	0	0	3	7	7	5	0	9	2	17	10	1·3
7·8	11	1·72	−0·41	0·57	6	0	0	1	1	14	0	0	2	13	11	5	2	9	10	5	3	2·8
8·1	19	4·02	+1·60	0·56	21	0	0	2	0	17	0	0	2	22	10	3	7	10	4	1	3	3·3
8·7	25	4·12	+1·40	0·55	30	0	1	1	0	20	0	0	1	4	6	1	8	16	16	3	5	2·9
...	18	1·51	−0·26	0·43	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	26	4·16	+2·38	0·63	21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	27	3·09	+1·18	0·58	30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
LEADHILLS, (Lanark.) JAMES M'FARLANE.	1300	Apr.	...	48·5	31·7	40·1	+0·2	60·2	2	24·1	18	37·4	2·1	·183	84
		May	...	52·0	35·9	44·0	−1·6	64·5	26	25·0	18	42·3	2·3	·222	83
		Jun.	...	54·8	41·2	48·0	−3·7	68·5	9	33·9	25	46·7	1·9	·275	87
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. DYSON, F.R.S.	441	Apr.	29·267	49·9	38·3	44·1	+0·6	61·8	2	28·4	18	42·9	3·0	·214	78
		May	29·355	51·2	41·4	46·3	−1·2	64·5	13	34·8	2	45·8	2·7	·248	81
		Jun.	29·211	57·5	46·0	51·8	−2·2	67·0	9	39·7	4	51·0	2·9	·301	81
CORSTORPHINE, (Edinburgh.) Dr T. N. JOHNSTON, F.R.S.E.	165	Apr.	29·569	52·3	37·8	45·1	+1·1	64·4	2	27·8	18	44·0	2·7	·230	79
		May	29·671	53·7	41·8	47·8	−0·8	65·9	13	34·0	17	47·2	3·2	·251	78
		Jun.	29·501	59·7	46·5	53·1	−2·0	68·0	9	39·0	23	51·8	3·0	·309	80
LEITH, (Edinburgh.) JAMES BOLAM, Nautical College, and G. REDPATH.	76	Apr.	29·671	51·8	40·3	46·1	+0·9	64·8	2	31·9	18	45·1	3·7	·221	73
		May	29·756	53·8	43·4	48·6	−0 9	68·6	13	37·9	29	47·7	2·8	·266	81
		Jun.	29·605	59·7	47·8	53·8	−2·0	70·6	9	41·1	4	52·5	3·0	·317	80
DALKEITH, (Edinburgh.) J. WHYTOCK, Gardener to the Duke of Buccleuch.	190	Apr.	29·553	52·3	36·7	44·5	−0·3	64·0	2	27·0	18	44·3	2·8	·231	79
		May	29·632	54·5	41·7	48·1	−1·3	68·0	13	34·5	29	47·7	2·9	·264	81
		Jun.	29·481	60·1	45·7	52·9	−2·9	71·0	9	37·5	4	52·5	3·2	·312	79
SMEATON, (Haddington.) JOHN BLACK, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Apr.	29·652	52·5	37·2	44·9	−1·4	65·0	1	28·0	16, 18	44·9	2·2	·249	85
		May	29·740	55·8	40·4	48·1	−2·4	68·0	13, 14	30·0	16	47·8	2·0	·283	86
		Jun.	29·590	...	45·3	...	...	...	...	34·0	4	54·1	2·5	·349	83
HADDINGTON, (Haddington.) D. MACRAE, Superintendent, District Asylum.	240	Apr.	29·498	51·6	...	...	...	63·0	2	...	...	44·4	2·3	·242	83
		May	29·585	54·6	...	...	...	67·0	12	...	...	47·4	2·5	·269	83
		Jun.	29·433	59·8	...	...	...	71·0	9	...	...	52·6	2·5	·330	83
MARCHMONT, (Berwick.) JOHN A. WOOD, Gardener.	500	Apr.	...	49·8	35·1	42·5	−1·3	60·0	1	26·0	18	42·7	2·3	·226	83
		May	...	53·2	39·2	46·2	−1·9	64·0	8	33·0	17	46·3	2·6	·256	82
		Jun.	...	58·2	42·9	50·6	−3·5	69·0	9	35·0	4	51·5	3·0	·305	80
DUNS CASTLE, (Berwick.) JAMES REDPATH, Gardener to F. S. Hay.	500	Apr.	29·215	52·2	35·3	43·8	−0·3	63·0	2	28·0	18, 19	42·4	2·8	·214	79
		May	29·294	55·1	39·8	47·5	−0·7	66·0	11, 13	34·0	5	46·0	2·7	·250	81
		Jun.	29·160	58·8	43·3	51·1	−3·1	67·0	9, 17	35·0	4	51·0	3·0	·299	80
BROOMLANDS, (Roxburgh.) JAMES BRUNTON.	205	Apr.	29·548	52·7	36·0	44·4	−2·6	63·0	2	25·0	18, 19	43·5	2·8	·223	78
		May	29·622	55·7	41·4	48·6	−0·9	67·0	27	35·0	17, 23	47·8	3·0	·263	80
		Jun.	29·485	60·9	44·9	52·9	−2·6	70·0	9	34·0	4	52·8	3·2	·316	79
WOLFELEE, (Roxburgh.) ARTHUR HUME, Gardener to J. T. S. Elliot.	537	Apr.	29·165	52·1	34·4	43·3	+0·1	63·0	2	21·0	18	41·6	2·2	·218	83
		May	29·248	55·0	40·7	47·9	−1·1	68·0	27	30·0	23	46·2	2·1	·265	86
		Jun.	29·129	59·7	43·7	51·7	−3·2	73·0	9	34·0	25, 30	50·7	2·2	·315	86
DRUMLANRIG, (Dumfries.) DAVID INGLIS, Gardener to the Duke of Buccleuch.	191	Apr.	29·535	51·8	35·9	43·9	−0·1	60·0	2	21·2	18	43·0	2·8	·219	79
		May	29·622	56·1	40·8	48·5	−1·2	68·3	24	27·8	18	48·5	2·9	·272	80
		Jun.	29·503	58·9	44·3	51·6	−4·2	71·0	9	38·0	25	51·2	2·2	·320	85
DUMFRIES, (Dumfries.) Rev. WILLIAM ANDSON.	60	Apr.	29·685	53·7	36·8	45·3	−0·7	64·0	2	28·0	18	44·9	3·1	·231	78
		May	29·757	57·1	43·0	50·1	−1·3	67·0	24	32·0	23	49·9	3·4	·277	78
		Jun.	29·659	61·0	46·4	53·7	−3·2	76·0	9	39·0	25	53·5	3·1	·326	79
CARGEN, (Kirkcudbright.) ALEX. PEACOCK, Gardener to Colonel Dudgeon.	85	Apr.	29·674	52·6	36·5	44·6	−0·7	64·0	2	26·0	18	44·0	2·5	·234	81
		May	29·746	56·3	42·5	49·4	−1·1	68·0	24	32·0	23	49·4	2·6	·290	83
		Jun.	29·632	59·8	45·7	52·8	−3·4	71·0	9	38·0	25	53·3	2·5	·338	83
CALLY, (Kirkcudbright.) WM. THOMSON, Gardener to Col. F. Murray Baillie.	120	Apr.	29·625	53·4	35·4	44·4	−1·3	63·6	16	25·5	18	44·6	1·8	·254	86
		May	29·699	55·9	41·5	48·7	−1·7	67·8	24	29·8	23	49·0	2·7	·305	88
		Jun.	29·591	59·4	45·3	52·4	−3·3	67·7	17	38·0	25	51·7	1·9	·324	88

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	16	3·58	...	1·19	6	7	2	0	...	...	0	6	0	6	11	17	21	0	0	5	0	...
...	17	6·36	...	1·05	1	7	5	1	...	...	7	4	3	25	7	14	5	3	0	5	0	...
...	29	6·18	...	0·65	8	0	2	2	...	...	6	3	0	2	0	8	17	22	9	2	0	...
6·5	15	1·31	−0·20	0·36	30	0	0	0	1	8	2	2	5	3	11	8	6	8	20	2	2	2·9
7·3	20	2·75	+1·10	0·77	21	0	0	0	0	13	7	1	3	11	18	4	10	4	11	0	1	3·1
6·6	21	2·41	+0·50	0·39	9	0	0	3	0	7	2	2	1	1	3	4	11	16	21	1	2	3·5
...	16	1·07	...	0·25	30	0	1	0	...	...	0	0	0	3	23	0	1	5	19	0	9	2·1
6·8	21	3·45	...	0·90	22	0	0	1	2	14	3	0	0	0	35	0	1	6	15	1	4	2·1
5·9	28	2·64	...	0·58	29	0	1	3	1	3	1	0	0	1	6	1	1	4	32	7	8	2·2
6·8	15	1·56	−0·20	0·48	3	1	3	0	1	10	1	0	10	0	18	2	4	0	24	2	0	3·5
8·0	19	3·11	+1·24	0·65	31	0	0	1	1	15	4	0	6	4	28	0	8	2	14	0	0	3·4
8·5	25	3·24	+1·24	0·47	1	0	1	0	0	15	1	0	2	2	6	2	10	14	22	2	0	3·6
6·1	11	1·12	...	0·39	3	0	2	0	4	10	0	0	6	7	12	2	6	6	13	7	1	1·1
7·3	14	2·38	...	0·58	31	0	0	0	1	18	3	0	4	7	22	4	4	6	10	4	1	1·2
6·6	18	2·28	...	0·42	1	0	1	2	1	11	0	0	0	4	8	5	2	18	22	1	0	1·2
...	8	1·62	+0·11	0·58	3	0	0	2	...	...	2	2	12	3	18	0	1	6	23	2	0	1·4
...	11	2·59	+0·83	0·61	31	0	0	1	...	...	2	3	10	9	18	4	4	8	8	1	0	1·5
...	18	2·84	+0·97	0·60	5	0	0	5	...	...	1	0	0	0	23	0	9	7	20	1	0	1·4
5·9	10	1·45	...	0·50	3	0	0	2	1	9	0	2	0	6	22	6	0	5	11	10	0	1·6
6·7	15	2·98	...	0·90	21	1	0	0	1	13	0	1	0	6	26	7	1	0	11	11	0	1·4
5·8	18	3·14	...	0·50	1	0	0	6	5	10	0	0	1	0	2	7	·0	18	24	8	0	1·3
6·2	14	1·98	−0·28	0·50	3	3	2	1	3	10	0	4	8	7	19	0	0	5	16	5	0	3·4
6·8	18	4·18	+1·82	0·81	31	1	3	4	2	10	1	2	14	5	23	1	4	5	8	2	0	3·7
6·6	21	3·88	+1·36	0·48	9	0	1	6	1	8	0	2	7	3	5	2	9	7	26	1	0	3·5
6·2	15	1·57	−0·61	0·43	3	0	1	1	5	12	3	3	2	6	14	2	3	12	10	11	0	...
7·7	19	3·71	+1·63	0·93	31	0	0	3	0	19	1	0	3	10	16	3	8	11	5	6	0	...
7·0	25	3·65	+1·38	0·60	9	0	0	7	1	14	0	0	0	2	0	2	7	31	12	6	0	...
6·7	14	1·96	+0·24	0·66	3	0	0	1	0	5	0	0	1	1	25	2	2	21	7	1	0	3·9
7·2	18	3·53	+1·69	0·70	23	0	0	1	0	8	1	1	3	1	28	3	3	20	4	0	0	3·0
7·2	22	4·04	+2·05	0·55	12	0	0	4	0	8	0	1	0	3	1	3	6	39	7	1	0	3·3
6·3	17	2·92	+0·48	0·61	3	2	2	0	1	6	0	0	5	8	2	15	4	12	9	5	0	1·5
7·5	20	4·71	+2·23	0·61	30	0	0	3	0	9	2	1	9	16	6	1	5	13	10	2	0	1·7
6·4	23	4·29	+2·01	0·70	20	0	1	4	0	3	0	0	2	4	0	4	1	23	16	10	0	2·0
...	13	2·20	−0·29	0·55	6	0	0	0	...	...	1	0	4	5	0	9	2	19	1	20	0	...
...	20	4·36	+1·96	0·84	30	0	1	2	...	...	0	0	4	4	0	9	1	25	0	19	0	...
...	27	5·04	+2·50	0·86	4	0	0	1	...	...	0	0	0	0	0	1	0	29	4	26	0	...
...	16	2·35	+0·10	0·70	6	0	2	0	...	...	0	0	6	10	9	9	2	5	5	11	3	2·8
...	21	4·48	+2·16	0·79	30	0	1	1	...	...	0	0	6	18	6	5	3	9	5	9	1	2·8
...	27	6·11	+3·75	1·02	4	0	1	1	...	...	0	0	0	5	2	5	2	15	17	10	4	2·9
6·6	10	2·87	+0·41	0·79	6	2	0	3	0	3	0	0	1	1	14	5	9	8	15	7	0	1·4
7·2	17	5·44	+2·87	0·86	1	0	0	4	0	8	0	0	6	0	6	22	11	2	7	8	0	1·4
6·9	25	6·66	+4·11	0·96	20	0	0	2	0	6	0	0	0	0	4	2	11	12	29	2	0	1·3
...	18	3·34	+0·51	0·73	20	3	2	1	...	...	0	0	1	12	9	13	1	8	1	15	0	2·2
...	19	5·10	+2·18	0·52	31	0	1	1	...	...	0	1	1	11	4	16	7	9	4	10	0	1·7
...	27	5·85	+2·81	0·91	20	0	1	1	...	...	0	0	2	1	1	10	3	14	5	24	0	1·9

BRIGHT SUNSHINE.

STATIONS.		1907.	SUNSHINE.		
		Months.	Total Observed.	Difference from Average.	Percentage of Possible.
			hours.	hours.	%
BALTASOUND,	(Shetland.)	Apr.	146·7	...	34
		May	198·6	...	37
		Jun.	90·6	...	16
DEERNESS,	(Orkney.)	Apr.	152·6	+ 3·4	36
		May	177·7	− 1·0	34
		Jun.	136·9	−16·7	25
INVERNESS,	(Inverness.)	Apr.	138·0	+23·0	32
		May	149·2	+19·2	29
		Jun.	103·5	−50·5	20
FORT AUGUSTUS,	(Inverness.)	Apr.	124·1	+ 8·5	29
		May	141·1	+ 5·1	28
		Jun.	75·7	− 59·2	14
ABERDEEN,	(Aberdeen.)	Apr.	150	− 5	35
		May	141	−48	28
		Jun.	149	−38	28
CRATHES,	(Kincardine.)	Apr.	146·2	...	35
		May	122·8	...	24
		Jun.	125·4	...	24
BALRUDDERY,	(Forfar.)	Apr.	141·8	...	34
		May	124 0	...	25
		Jun.	127·2	...	24
OBAN,	(Argyll.)	Apr.	142·3	...	34
		May	153·0	...	36
		Jun.	89·2	...	17
PAISLEY,	(Renfrew.)	Apr.	110·5	−33·5	26
		May	129·1	−40·9	26
		Jun.	95·5	−61·5	18
GLASGOW,	(Lanark.)	Apr.	125·0	− 2·9	30
		May	132·3	−32·1	27
		Jun.	93·6	−71·2	18
EDINBURGH,	(Edinburgh.)	Apr.	139·1	− 8·4	33
		May	121·0	−32·9	24
		Jun.	151·0	−32·4	29
DUNS CASTLE,	(Berwick.)	Apr.	144·5	...	34
		May	109 5	...	22
		Jun.	131·0	...	25
MARCHMONT,	(Berwick.)	Apr.	148·6	+ 7·8	35
		May	117·0	−62·1	23
		Jun.	154·9	−30·1	30

UNDERGROUND TEMPERATURE.

STATIONS.	1907.	UNDERGROUND TEMPERATURE.				
	Months.	Depth in Inches.				
		3	12	22	36	48
		°	°	°	°	°
DUNROBIN, (Sutherland.)	Apr.	...	46·1	45·8	...	...
	May	...	50·1	49·6	...	...
	Jun.	...	53·6	52·9	...	...
INVERNESS, (Inverness.)	Apr.	...	44·6	...	...	43·8
	May	...	48·3	...	...	46·9
	Jun.	...	51·8	...	...	50·5
ABERDEEN, (Aberdeen.)	Apr.	...	...	...	...	42·4
	May	...	...	...	...	45·2
	Jun.	...	...	...	...	48·2
CRATHES, (Kincardine.)	Apr.	...	42·8	...	...	42·0
	May	...	48·2	...	...	45·9
	Jun.	...	52·4	...	...	49·3
ARBROATH, (Forfar.)	Apr.	42·9	42·6	42·5	...	...
	May	46·4	46·1	45·7	...	...
	Jun.	50·9	50·1	49·4	...	...
POLTALLOCH, (Argyll.)	Apr.	45·9	...	46·6	...	...
	May	50·9	...	50·9	...	...
	Jun.	53·3	...	53·3	...	...
ROTHESAY, (Bute.)	Apr.	...	...	...	...	44·6
	May	...	...	...	...	47·1
	Jun.	...	...	...	...	49·9
PAISLEY, (Renfrew.)	Apr.	44·7	44·3	45·3	...	...
	May	48·9	48·3	49·0	...	...
	Jun.	52·7	51·6	51·6	...	...
CORSTORPHINE, (Edinburgh.)	Apr.	44·5	45·0	44·6	41·9	41·1
	May	48·1	48·9	48·2	46·1	45·5
	Jun.	53·1	53·1	52·1	51·3	49·7
SMEATON, (Haddington.)	Apr.	44·9	44·8	44·7	...	...
	May	50·4	50·4	49·9	...	...
	Jun.	55·1	55·0	54·5	...	...
MARCHMONT, (Berwick.)	Apr.	43·3	43·8	44·5	...	...
	May	48·5	48·0	48·3	...	...
	Jun.	54·0	52·7	52·6	...	...

Continuation of page 299.]

readings occurred on various dates, but generally early in the month, or between 17th and 19th, the actual lowest being 23°0 at Lednathie on 2nd.

The mean rainfall of 3·96 inches, or 73 per cent. above the normal, has been exceeded during the last 50 years only in 1906. In the Orkneys, the extreme North of the mainland and part of West Inverness-shire there was a slight deficiency, but elsewhere there was an excess, very heavy in most districts. Thus Montrose and Arbroath had about thrice their normal amounts, and extensive districts in the East at least double the average. In the Clyde area and most of the South of Scotland the excess was from 80 per cent. upwards. The greater part of the month's rain fell between 1st and 12th, 21st and 24th, and on 30th and 31st. On 23rd falls of considerably more than 1 inch occurred towards the North East (1·89 inch at Logie Coldstone), and on 31st Dundee had 1·06 inch.

The weather was stormy on 2nd, with winds from S.W. Snow fell at Crieff on that day, and showers of sleet or hail were rather frequent in many districts during the month.

Thunderstorms were rather frequent. These as a rule occurred on 8th towards East and North, and on 8th and 12th in South. The thunderstorm on 12th in Southern districts was of great severity.

Bright sunshine was very deficient except towards N.W. and N. Baltasound (199 hours) and Oban (183 hours) averaged 2 hours a day more than Edinburgh (121 hours).

JUNE 1907—

Hence the month of JUNE 1907 was characterised by a remarkably low mean pressure; a notably low mean temperature, with a very low mean daily range; an exceptionally high mean rainfall, with a notably large number of days with rain; a considerable excess of winds from a Westerly quarter.

The mean pressure of 29·681 inches, or 0·265 inch below the normal, was decidedly the lowest mean pressure for June since 1860. Throughout the entire month the weather was under the influence of a constant succession of low pressure areas, range being very low and the absence of high readings remarkable. The extremes at Leith were 30·085 inches on 17th and 29·426 inches on 24th.

The mean temperature of 51°·1, or 3°·8 below the normal, was the lowest recorded for June for at least 50 years, and has been approached only in 1888. The temperature deficiency was everywhere well-marked, and increased from East to West; the defect at most Western stations ranging from 4° to 5°. The days were, on the mean, deficient by 5°·2 and the nights by 2°·4. At a good many stations the maximum was below that for May and nearly everywhere the absence of high day temperatures was remarkable. The 9th, 11th or 17th were generally the warmest days, Dumfries registering 76°·0 on 9th; but only one quarter of the stations reached 70°. Lowest temperatures fell as a rule on 4th. The actual lowest, however, was 29°·5 at Baltasound on 1st, but in West and South on 23rd or 25th. On 23rd Balmoral had a shade reading of 32°·0, and on 4th Lairg and Lednathie registered 32°·5.

The mean rainfall of 4·35 inches was as much as 73 per cent. above the normal. Returns from Kingussie and Braemar indicate a restricted area of comparatively low rainfall, but in most districts the excess was very heavy. Along the greater part of the East Coast from Wick to the Tay and for some distance inland most stations had more than twice their normal June amounts, and the excess in the South was also remarkable. Lairg, Glencarron, Buchlyvie and Leadhills had only one rainless day, and many places only three or four such days. The month was notable for the persistency of the rainfall rather than for abnormally heavy individual falls; but we note amounts of over 1 inch in a day at Inverness on 1st, at Dumfries on 4th, at Glencarron on 19th and at Gordon Castle on 24th. On the whole, the month appears to have been the wettest June since 1872, though in June 1897 the rainfall in Eastern districts was at least as heavy.

Storms of thunder and hail were frequent; especially in East and South. Thus at Montrose thunder occurred on six days and at Duns on seven. The severest storms were between 9th and 13th and on 29th, that on the latter date being widespread, but not, apparently, experienced to the West of Paisley or North West of the Grampians.

The cold and wet character of the month was naturally associated with sunshine amounts much below the normal. Baltasound and Oban had less than half the amounts recorded in May.

Fog was somewhat frequent from 5th to 16th, especially around the Orkneys and Shetlands.

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 30th SEPTEMBER 1907.

By Mr A. Watt, M.A., F.R.S.E., under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 60 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country :—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N. ; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1907.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %	Days.	Amount in Inches.		
	inch.	°	°	°	°	°	°	°	inch.					hours.
July	29·976	62·7	48·1	55·4	87·0	35·0	54·7	2·7	·352	82	15	2·44	7·4	*
Aug.	29·799	60·5	46·6	53·6	73·0	32·0	53·0	2·5	·335	83	28	4·61	7·1	*
Sept.	30·046	61·5	45·5	53·5	87·0	27·8	53·0	2·3	·340	84	11	1·47	6·0	*

1907.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS.										Thunder heard.	
	3 Inches.	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
July	57·8	57·0	56·6	54·3	53·3	5	8	10	5	3	8	10	9	4	2·2	15	2
Aug.	55·9	55·9	56·3	55·5	54·3	4	2	4	3	4	15	18	9	3	2·6	12	2
Sept.	53·5	54·0	54·6	53·9	53·1	2	2	5	4	6	14	16	6	5	2·1	13	1

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these returns are compared with the averages of 1856–1905, during the same months, they show the following characteristics and differences :—

JULY 1907—

Mean Barometric Pressure, 29·976 inches ; greater than the average of 1856–1905 by 0·084 inch.
Mean Temperature, 55°·4 ; less by 1°·9.
Mean Daily Range of Temperature, 14°·6 ; less by 0°·3.
Mean Humidity, 82 per cent. ; being the average.
Rain, Number of Days, 15 ; being the average.
Rain, Depth in Inches, 2·44 ; less by 0·68 inch.
Wind, Mean Force (on Scale of 0–12), 2·2 ; less by 0·2.
Wind, Direction of : a 5 days' excess of winds from between N.W. and E.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·4 ; greater by 0·8.

AUGUST 1907—

Mean Barometric Pressure, 29·799 inches ; less than the average of 1856–1905 by 0·057 inch.
Mean Temperature, 53°·6 ; less by 3°·0.
Mean Daily Range of Temperature, 13°·9 ; less by 0°·6.
Mean Humidity, 83 per cent. ; less by 1 per cent.
Rain, Number of Days, 24 ; greater by 8 days.
Rain, Depth in Inches, 4·61 ; greater by 0·93 inch.
Wind, Mean Force (on Scale of 0–12), 2·6 ; greater by 0·3.
Wind, Direction of : a 6 days' excess of winds from between S.W. and N.W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·1 ; greater by 0·5.

SEPTEMBER 1907—

Mean Barometric Pressure, 30·046 inches; greater than the average of 1856–1905 by 0·180 inch.
Mean Temperature, 53°·5; greater by 0°·7.
Mean Daily Range of Temperature, 16°·0; greater by 2°·0.
Mean Humidity, 84 per cent.; less by 1 per cent.
Rain, Number of Days, 11; less by 5 days.
Rain, Depth in Inches, 1·47; less by 2·05 inch.
Wind, Mean Force (on Scale of 0–12), 2·1; less by 0·5.
Wind, Direction of: a 2 days' excess of winds from S.W. and W.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·0; less by 0·3.

JULY 1907—

Hence the month of JULY 1907 was characterised by a rather high mean pressure; a low mean temperature, with a slightly low mean daily range; a rather low mean rainfall; a considerable excess of winds from between N.W. and E.

The mean pressure was 29·976 inches or 0·084 inch above the normal. From 10th to 21st the weather was controlled by an extensive high-pressure system, but at the beginning and end of the month conditions were very unsettled, the deepest depression occurring on 3rd and 4th. At Leith the extremes were 30·521 ins. on 15th and 29·506 ins. on 4th.

The mean temperature was 55°·4, or 1°·9 below the normal, the days being 2°·0 and the nights 1°·7 below their respective averages. The month proved, on the whole, the coldest July since 1902, the temperature defect being greatest in the Eastern half of the country. The first week of the month appears to have been the coldest week experienced in July for a good many years, and some low day temperatures were reported, Lairg and Glencarron failing to reach 50° on 5th. Some high day temperatures occurred about the middle of the month, but on the East coast the reversion to cold weather was abrupt. Thus, at Leith the maximum on 16th was 81°·8, but on 19th only 59°·2. The highest shade temperatures were 87°·0 at Buchlyvie and 86°·3 at Lairg on 16th. Minima fell generally on 1st, 2nd, 7th, and 11th, the actual lowest being 35°·0 at Leadhills on 11th and 30th.

The mean rainfall was 2·44 inches, or 22 per cent. below the normal. Midlothian had about its average amount, but in general there was a well-marked shortage amounting to 40 per cent. and over in many districts. At Lerwick and Deerness the aggregate was but little over 1 inch. The heavy rains of June were prolonged until about July 13th, when an abrupt change took place in sympathy with the dominating high-pressure system above noted. A rainless spell of about 12 days' duration was followed by a recurrence of rainy weather from 26th onwards. The heaviest falls took place on 4th (0·77 in. at Edinburgh); on 7th; on 11th and 12th (1·92 in. at Lochbuie on 12th); and at the close of the month (1·08 in. at Dalkeith on 29th).

Sleet at Balmoral on 1st. Hail in North and North East, and at Crieff and Leadhills on 1st; at Wolfelee on 5th; and Balruddery, Buchlyvie and Paisley on 9th.

Solar halos noted at Paisley on 14th; and at Drumlanrig on 21st.

Thunderstorms at Kelso on 1st; at Wolfelee on 1st, 5th, and 28th; in South of Scotland on 21st; and in Lothians and Berwickshire on 29th. Thunder was heard at Duns on 8 days.

Sunshine, as in May and June, was very deficient on the East Coast. On the West the month was rather sunnier than usual, Glasgow with 156 hours registering 24 hours more than Edinburgh.

Coast fog was frequent between 11th and 17th.

AUGUST 1907—

Hence the month of AUGUST 1907 was characterised by a rather low mean pressure; an abnormally low mean temperature, with a slightly low mean daily range; a high mean rainfall, with a large number of days with rain; a decided excess of winds from between S.W. and N.W.

The mean pressure was 29·799 inches, or 0·057 inch below the normal, the defect ranging from more than 0·1 inch over Shetland to a nominal amount in the South. Depressions were numerous, and the weather of the Scottish area was hardly ever under the control of a high-pressure system. At Leith the sea-level extremes were 30·226 inches on 21st and 29·455 inches on 10th.

The mean temperature was 53°·6, or 3°·0 below the normal, the days being 3°·3 and the nights 2°·7 below their respective averages. Taking Scotland as a whole, the low day temperatures appear to have been unprecedented during at least 50 years, though in 1881, 1885 and 1902, the actual mean temperature of the month was as low, or almost so. The temperature defect was everywhere well marked, exceeding 4° at Fort Augustus and Fort William. There was an almost entire absence of seasonable warmth, and only seven stations had a maximum for the month as high as 70°, whilst there were days in many districts on which the thermometer failed to reach 60°. The highest readings reported were 73°·0 at Kilmarnock on 17th, and 71°·0 at Lairg on 22nd; but, as a rule, the warmest days were 4th, 5th or between 8th and 12th. Lowest readings occurred on 2nd, or during the last week of the month, Leadhills reporting 32°·0 in shade on 30th, on which day Crathes registered 5° of frost in the open, and Balmoral 4°.

The mean rainfall was 4·61 inches or 25 per cent. above the normal. To the North East of the Grampians and towards the Borders there was a moderate deficiency, but in general there was an excess which at many Western stations amounted to more than 50 per cent. Glenquoich had more than 15 inches of rain; Lochbuie (Mull) more than 12, and Fort William 10½. At Glencarron rain fell on 31 days, and at many stations on 27 or more. Lochbuie registered 2·15 inches on 8th, and falls of at least 1 inch on 10th, 24th and 28th. The wettest period in the Southern half of the country was from 11th to 15th, Glasgow having 1·32 inch on 11th. Towards the North West, the heaviest falls occurred from 8th to 10th, around 19th and during the last week of the month. The absence of heavy falls towards the North East was noteworthy, the wettest day at King's College, Aberdeen, being 2nd, with only 0·26 inch.

Sleet and hail fell at Balmoral on 31st, hail at Dundee and Dalkeith on that day, and in Shetland on 20th and 24th.

Thunder in the Orkneys and Mull on 11th; in some districts South of the Forth and Clyde on 12th; at Aberdeen on 6th, 18th and 31st; at Duns on 15th, 16th, and 28th. Thunderstorms of any severity occurred only very locally.

Solar halos noted at Baltasound on 3rd and at Paisley on 6th.

Fog was of unimportant occurrence for a summer month.

Sunshine was on the whole deficient, more so in the West than in the East, and very sunny days were of rare occurrence.

Auroras observed in Shetland on 2nd and 7th.

SEPTEMBER 1907—

Hence the month of SEPTEMBER 1907 was characterised by a high mean pressure; a rather high mean temperature, with a large mean daily range; a very low mean rainfall; a slight excess of winds from S.W. and W.

The mean pressure was 30·046 inches, or 0·180 inch above the normal. Unsettled conditions early in the month were followed by a long period of high pressure, the barometer at sea-level at Leith remaining all but continuously above 30 inches from 7th to 23rd. The extremes at Leith were 30·549 inches on 21st and 29·434 inches on 2nd.

The mean temperature was 53°·5, or 0°·7 above the normal, the days being 1°·7 above and the nights 0°·3 below their respective averages. A good many stations practically agreed with their normals, and in Shetland there was a decided deficiency. Early in the month very low temperatures for the time of year occurred, many stations reporting shade readings below 32° on 3rd or 4th, the actual lowest being 27°·8 at Kingussie, whilst Balmoral had a temperature in the open as low as 21°. Thereafter until almost the end of the month mild conditions prevailed. Indeed the highest temperature of the month at Poltalloch occurred on 30th, that at Kingussie on 29th, and that at Fort William and some stations in South West and South on 28th. But, in general, the 10th was the warmest day, readings of 87°·0 at Lairg, 83°·2 at Loanhead (Logie Coldstone), and 80°·0 at Gordon Castle being the highest recorded at these places during the present year.

The mean rainfall was 1·47 inch, or 59 per cent. below the normal. In Shetland and at Leith there was only a slight deficiency, but in nearly all districts the shortage was very pronounced, and, taking the country as a whole, the month proved the driest September since 1894. Large areas received decidedly less than 1 inch of rain, and aggregates of more than 2 inches occurred only at some Western stations and in Shetland. The wet weather of August was prolonged until 5th or 6th of the month, Lochbuie having 1·25 inch on 2nd and Leith 1·02 inch on the same day. Rain was again fairly general on 11th, but thereafter, except towards North and North West, an almost continuous dry spell prevailed until nearly the close of the month. At Dumfries, after 3rd, the month was rainless except for small falls on 11th and 30th, and there were considerable areas approximating to these conditions. At Baltasound (Shetland), at the other extreme, rain fell on 26 days.

Rather stormy weather was experienced towards the North on 2nd, 3rd and 6th, whilst on 16th a gale was general round the Coast from Tarbet Ness to Cape Wrath, and in the Orkneys and Shetlands.

Thunderstorms of moderate severity occurred in West and South West on 10th or 11th. A solar halo noted at Leith on 25th.

Towards North West, North East and South East, large amounts of sunshine were recorded. At Crathes on Deeside, the large total of 194 hours represented 51 per cent. of the possible, and an average of 2½ hours sunshine per day more than in August and 3 hours per day more than in June; Edinburgh and Glasgow had about their normal amounts.

During the last four or five days of the month dense fog prevailed almost continuously along the East Coast; on the West, fog occurred more sporadically.

An Aurora was widely observed on 10th, and at Fort William and Gordon Castle on 30th.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	
NORTH UNST, (Shetland.) Principal Keeper of the Lighthouse.	230	July	29·678	...	...	...	...	...	...	...	...	49·0	...	...	...
		Aug.	29·426	...	...	...	...	...	...	...	...	49·0	...	...	...
		Sept.	29·654	...	...	...	...	...	...	...	...	48·3	...	...	...
BALTASOUND, (Shetland.) Dr T. Edmondston Saxby.	50	July	29·876	54·1	46·6	50·4	...	61·9	15	42·2	11	50·2	1·5	·325	90
		Aug.	29·628	54·7	46·3	50·5	...	60·2	5	43·0	12	50·4	1·5	·328	90
		Sept.	29·868	53·0	45·1	49·1	...	67·0	11	33·5	22	49·4	1·2	·322	91
LERWICK, (Shetland.) Capt. G. Allison, Harbour Master.	30	July	29·886	55·0	47·2	51·1	−2·6	68·0	15	42·0	8,9,11	50·9	2·5	·310	84
		Aug.	...	53·3	46·8	50·1	−3·4	56·0	6, 18	42·0	11	50·6	2·6	·303	82
		Sept.	29·908	52·7	45·7	49·2	−2·5	63·0	11	37·0	6	49·6	2·0	·305	86
DEERNESS, (Orkney.) M. Spence, Schoolhouse.	163	July	29·779	55·3	46·5	50·9	−2·9	68·6	15	42·2	10	50·5	1·7	·324	89
		Aug.	29·538	54·7	46·0	50·4	−3·0	67·8	18	41·8	31	50·3	1·6	·324	89
		Sept.	29·799	55·3	46·6	51·0	−0·2	67·8	10	37·2	22	51·1	1·9	·327	86
KIRKWALL, (Orkney.) William T. Sinclair.	30	July	29·922	55·9	46·9	51·4	−3·4	71·6	16	42·8	8, 10, 21	51·4	2·0	328	87
		Aug.	29·682	55·6	46·8	51·2	−3·6	62·6	6	41·2	13	50·8	1·6	·330	88
		Sept.	...	...	...	...	...	...	...	...	...	...	...	...	...
DUNROBIN, (Sutherland.) D. Melville, Gardener, Dunrobin Castle.	16	July	29·943	57·5	47·9	52·7	−3·6	69·0	16	40·5	4	53·4	3·1	·325	80
		Aug.	29·733	58·2	46·5	52·4	−3·6	63·5	8	41·5	30	52·5	2·6	·327	82
		Sept.	29·987	59·4	46·4	52·9	0·0	68·0	10, 18	36·0	3	53·2	2·9	·328	81
LAIRG, (Sutherland.) Rev. John K. Maclean, M.A.	390	July	29·540	63·8	46·2	55·0	−1·9	86·3	16	41·0	5,6,13	53·8	2·7	·340	82
		Aug.	29·314	60·5	45·1	52·8	−3·4	71·0	22	37·0	24	51·6	2·5	·318	83
		Sept.	29·561	65·8	44·3	55·1	+2·3	87·0	10	31·0	22	53·1	2·6	·234	82
GLENCARRON, (Ross.) D. D. Munro.	504	July	29·436	60·8	46·5	53·7	−1·3	79·4	15	38·0	9	53·1	2·9	·326	80
		Aug.	29·225	56·7	45·8	51·3	−3·5	68·1	13	38·6	24	50·7	2·2	·315	86
		Sept.	29·477	59·1	46·2	52·7	+1·7	73·9	10	34·8	22	51·9	2·4	·324	85
MONACH, (Hebrides.) Principal Keeper of the Lighthouse.	150	July	29·832	...	...	...	...	...	...	...	...	54·6	...	...	...
		Aug.	29·605	...	...	...	...	...	...	...	...	52·6	...	...	...
		Sept.	29·844	...	...	...	...	...	...	...	...	54·3	...	...	...
KINGUSSIE, (Inverness.) Dr Walter de Watteville.	828	July	29·080	63·9	45·4	54·7	−0·7	81·9	16	38·3	5	54·2	3·4	·327	78
		Aug.	28·888	58·4	43·0	50·7	−3·5	65·0	4	33·1	24	50·7	2·8	·300	81
		Sept.	29·141	61·4	42·1	51·8	+1·8	76·9	29	27·8	4	51·8	3·0	·309	80
INVERNESS, (Inverness.) W. G. MacConnachie, M.A.	114	July	29·852	60·4	49·1	54·8	−2·2	78·0	16	43·0	9	54·9	2·9	350	81
		Aug.	29·645	59·8	48·9	54·4	−2·3	67·6	4	40·8	24	53·7	3·1	·329	80
		Sept.	29·923	61·1	47·9	54·5	+1·4	78·4	10	35·9	3	54·2	2·8	·342	81
FORT AUGUSTUS, (Inverness.) Rev. Cyril von Dieckhoff, St Benedict's Priory.	78	July	29·898	61·8	47·6	54·7	−2·8	76·8	16	36·0	24	54·3	2·6	·349	82
		Aug.	29·687	59·3	46·7	53·0	−4·2	69·3	4	35·7	24	52·4	2·2	·335	85
		Sept.	29·944	61·2	45·8	53·5	+0·5	75·0	10	30·1	3	52·9	2·1	·344	87
FORT WILLIAM, (Inverness.) W. T. Kilgour.	38	July	29·930	63·6	48·5	56·1	−1·2	82·0	17	41·5	2	55·6	1·9	·389	87
		Aug.	29·742	58·6	47·2	52·9	−4·2	68·8	4	37·0	2	52·2	2·2	·332	85
		Sept.	29·993	59·9	47·1	53·5	+0·2	72·2	28	32·0	3	52·9	1·9	·348	87
GORDON CASTLE, (Banff.) C. Webster, Gardener to the Duke of Richmond and Gordon.	107	July	29·850	61·2	46·0	53·6	−3·6	76·0	15	37·0	19	54·4	3·1	·338	80
		Aug.	29·647	60·9	45·7	53·3	−3·2	68·5	5	39·2	30	53·5	3·4	·319	78
		Sept.	29·897	64·7	44·6	54·7	+1·4	80·0	10	33·0	22	55·1	4·0	·326	75
BALMORAL, (Aberdeen.) J. Michie, M.V.O., and John M. Troup.	927	July	...	58·8	44·4	51·6	−3·2	75·0	16	37·0	5	...	...	...	...
		Aug.	...	58·4	40·6	49·5	−4·3	64·0	22	32·0	28	...	...	...	...
		Sept.	...	62·1	39·3	50·7	+1·4	76·0	10	28·0	4	...	...	...	...

SCOTLAND for the Quarter ending 30th September 1907.

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0-10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0-12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
9·0	...	...	...	...	...	0	0	0	0	22	8	0	20	7	2	2	2	8	6	13	2	3·5
8·8	...	...	...	...	...	0	0	0	0	17	1	1	10	5	7	4	6	3	16	9	2	3·2
...	...	...	...	...	...	0	0	0	...	...	9	2	2	1	3	2	9	17	15	11	0	...
7·8	20	1·07	...	0·39	30	0	0	0	1	17	7	0	18	13	4	3	3	3	9	9	0	2·6
6·6	27	4·01	...	0·58	13	0	2	0	0	4	3	2	12	6	7	8	2	7	14	6	0	3·1
7·8	26	2·81	...	0·57	2	1	1	1	1	15	10	2	5	1	2	5	13	13	14	6	1	3·2
...	13	1·11	...	0·27	29	0	0	0	...	...	5	0	23	17	1	3	6	4	5	2	1	3·4
...	22	4·09	...	0·61	4	0	0	0	...	...	1	0	18	1	4	3	13	4	10	9	0	3·9
...	21	2·75	...	0·72	2	0	0	0	...	...	8	1	8	0	0	1	9	21	13	7	1	4·3
8·0	11	1·17	− 1·49	0·25	5	0	0	0	0	17	8	0	12	7	6	7	1	4	3	18	4	4·1
7·6	26	4·14	+ 1·32	0·49	11	0	0	1	1	15	2	2	4	2	4	9	8	6	13	14	2	4·6
7·0	13	1·25	− 1·75	0·23	1	0	0	0	2	15	6	3	2	3	0	9	16	4	17	9	0	4·7
...	14	0·98	− 1·63	0·24	4	...	...	...	...	...	...	0	10	4	2	2	6	12	10	16	0	3·8
...	27	3·42	+ 0·40	0·40	4	...	...	...	...	...	...	3	2	2	4	2	8	16	26	2	0	4·1
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	12	1·57	− 1·07	0·33	9	0	0	0	...	...	1	0	3	3	24	4	2	0	10	8	8	1·4
...	18	3·70	+ 1·03	0·81	18	0	0	0	...	...	1	0	1	1	13	8	5	8	18	7	1	2·2
...	10	1·04	− 1·59	0·38	1	0	0	0	...	...	5	0	5	1	3	12	6	11	16	2	4	2·1
8·1	16	1·64	− 1·26	0·29	30	0	1	0	3	21	0	0	0	3	21	2	0	0	2	25	9	2·9
8·2	27	3·64	+ 0·67	0·45	18	0	0	0	0	18	1	0	0	0	12	1	3	8	13	21	4	3·4
5·7	20	1·15	− 1·84	0·25	1	0	0	0	4	5	5	0	0	2	6	1	5	1	12	10	23	2·5
7·2	18	4·19	− 1·50	0·87	30	0	0	0	5	19	3	0	7	0	26	0	3	0	23	0	3	2·5
8·3	31	9·10	+ 1·88	0·83	24	0	0	0	0	24	1	2	8	0	8	0	0	0	44	0	2	3·6
6·7	19	3·01	− 5·65	0·55	6	0	0	0	4	14	3	0	11	0	9	0	2	0	38	0	0	3·0
7·0	13	1·83	− 1·19	0·46	13	0	0	0	3	14	10	0	16	7	9	3	7	7	5	6	2	2·7
7·9	24	5·01	+ 1·29	0·60	10	0	0	0	0	13	4	1	11	5	5	3	2	14	15	7	0	3·6
7·7	14	2·26	− 1·91	0·54	2	0	0	0	0	12	7	0	0	2	4	3	14	22	10	3	2	3·1
7·3	13	1·38	− 0·98	0·44	7	...	...	...	3	14	...	...	...	...	...	...	...	...	...	...	...	...
8·1	27	3·23	+ 0·40	0·39	29	...	...	...	0	16	...	...	...	...	...	...	...	...	...	...	...	...
6·0	11	1·01	− 1·86	0·40	3	...	...	...	5	8	...	...	...	...	...	...	...	...	...	...	...	...
7·3	15	2·34	− 0·42	0·52	7	0	1	0	2	13	3	0	1	23	9	1	0	10	8	9	1	1·5
7·6	25	2·77	+ 0·11	0·31	24, 28	0	0	0	0	9	5	1	2	8	2	0	2	16	21	11	0	2·3
6·4	11	0·68	− 1·95	0·14	13	0	0	0	2	10	7	2	1	5	2	0	0	24	24	4	0	1·9
7·2	17	2·02	− 0·96	0·40	1	0	0	0	4	15	2	0	1	29	0	0	1	17	3	3	8	2·7
8·3	27	4·36	+ 0·67	0·53	9	0	0	0	0	20	1	2	3	7	0	0	3	37	5	1	6	3·0
7·1	9	1·88	− 2·67	0·36	6	0	0	1	3	15	5	1	1	9	0	0	5	32	4	1	8	2·3
7·6	16	2·25	− 2·53	0·58	12	0	0	0	4	18	6	0	0	17	3	0	0	13	6	7	16	1·5
8·9	29	10 59	+ 4·19	1·40	28	0	0	0	0	25	4	2	0	3	2	0	2	29	13	5	8	2·3
7·2	20	3·26	− 4·48	0·73	5	0	0	0	4	16	8	0	0	1	3	0	4	27	9	0	16	1·4
8·7	16	2·74	− 0·36	0·70	27	0	0	0	1	24	..	0	8	12	2	11	0	5	3	20	0	1·3
8·1	24	3·15	− 0·22	0·53	19	0	0	0	0	17	...	0	1	2	1	6	10	21	8	13	0	1·9
5·9	11	0·59	− 2·35	0·20	1	0	0	0	2	6	...	0	1	4	0	6	7	32	5	5	0	1·6
8·2	18	1·58	...	0·32	7	1	0	0	3	19	3	1	5	3	6	3	6	5	24	10	0	...
7·9	25	2·99	...	0·37	31	1	1	1	1	17	1	1	5	0	5	1	7	1	42	1	0	...
6·3	7	0·95	...	0·32	4	0	0	0	2	7	4	2	5	0	0	0	8	6	37	4	0	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
				A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	in.	%
LOANHEAD, (Aberdeen.)	747	July	29·165	61·8	47·1	54·5	−1·3	82·0	16	40·5	7	54·4	2·3	·359	85
Alex. Farquharson.		Aug.	28·972	59·3	44·7	52·0	−3·1	65·0	9	36·6	28	52·3	2·7	·322	82
		Sept.	29·229	64·3	44·2	54·3	+2·9	83·2	10	32·5	4	54·4	3·0	·340	80
TILLYPRONIE, (Aberdeen.)	1120	July	28·770	60·2	45·1	52·7	−1·8	78·9	16	36·9	2	51·2	2·4	·316	84
Robt. Littlejohn, Gardener		Aug.	28·590	58·9	42·6	50·8	−3·0	64·7	10	36·7	24	49·9	2·8	·289	82
to Sir John F. Clark, Bt.		Sept.	28·836	63·1	43·7	53·4	+3·8	77·3	10	32·1	3	52·3	3·2	·310	79
ABERDEEN, (Aberdeen.)	44	July	29·920	61·6	48·4	55·0	−2·3	77·0	16	42·0	7	55·6	3·0	·360	81
Peter Harper, Superin-		Aug.	29·734	61·3	47·0	54·2	−2·7	70·4	8	37·0	30	54·2	3·0	·337	80
tendent, Duthie Park.		Sept.	29·993	62·6	45·9	54·3	+1·1	75·3	10	33·0	4	53·3	3·0	·326	80
ABERDEEN,* (Aberdeen.)	90	July	29·872	59·9	49·1	54·5	−2·7	76·0	16	43·0	7, 22	54·9	2·9	·350	81
King's College, The		Aug.	29·673	61·0	47·7	54·4	−2·1	70·0	8	38·0	30	55·1	3·6	·336	77
Meteorological Office.		Sept.	29·937	61·9	46·4	54·2	+1·2	75·0	10	34·0	4	54·0	2·6	·344	82
PETERHEAD, (Aberdeen.)	100	July	29·862	57·1	48·0	52·6	−4·5	70·0	16	42·5	11	53·5	3·1	·326	79
Dr W. H. M'Walter,		Aug.	29·670	58·7	46·5	52·6	−4·3	67·5	8	40·8	24	52·9	2·5	·333	84
H.M. Prison.		Sept.	29·925	59·1	46·5	52·8	−0·3	69·4	10	36·0	4	52·6	2·0	·343	86
CRATHES, (Kincardine.)	145	July	29·813	62·4	46·8	54·6	−2·7	79·0	16	40·8	11	54·9	3·3	·342	79
J. Smith, Pinewood.		Aug.	29·622	61·2	45·1	53·2	−3·1	67·0	8	32·0	30	53·7	3·8	·312	75
		Sept.	29·888	64·7	42·4	53·6	+1·2	77·0	10	28·2	4	54·0	3·0	·334	80
MONTROSE, (Forfar.)	200	July	29·761	59·8	48·5	54·2	−3·3	77·0	16	43·0	22	53·5	2·6	·339	82
(Royal Asylum),		Aug.	29·570	60·2	46·8	53·5	−3·4	66·0	10	40·0	24, 26	52·9	2·3	·339	85
James Masson.		Sept.	29·826	60·4	45·7	53·1	+0·3	72·0	10	35·0	4	52·4	2·0	·340	87
ARBROATH, (Forfar.)	68	July	29·909	60·1	48·8	54·5	−3·0	72·0	16	41·0	7	54·5	2·6	·352	82
James Campbell, "For the		Aug.	29·730	61·9	47·0	54·5	−2·6	68·0	10	39·0	20, 24	54·2	3·1	·335	80
Natural History Assoc. of		Sept.	29·980	60·6	46·2	53·4	−0·1	67·0	10	34·0	4	53·3	2·4	·341	83
Arbroath."															
LEDNATHIE, (Forfar.)	720	July	...	61·4	46·0	53·7	−2·3	78·6	17	36·0	7	53·6	2·9	·333	80
W. G. Lindsay, Gardener		Aug.	...	59·7	43·6	51·7	−3·0	65·2	10	34·0	26	53·1	4·2	·296	73
to Patrick Stormonth		Sept.	...	62·2	41·0	51·6	+0·8	74·6	10	29·5	4	51·7	2·9	·310	81
Darling.															
DUNDEE, (Forfar.)	164	July	29·798	63·5	48·9	56·2	−2·5	81·8	16	40·3	7	54·5	2·5	·354	83
Eastern Necropolis,		Aug.	29·616	63·0	46·9	55·0	−2·5	68·0	9	38·0	30	53·9	2·6	·343	83
J. Carnochan, Curator.		Sept.	29·875	61·9	46·1	54·0	+0·5	75·0	10	33·0	4	52·5	1·9	·344	87
DUNDEE, Harbour, (Forfar.)	20	July	...	66·2	47·1	56·7	−2·7	82·0	16	39·5	2	...	...	...	...
J. H. Thompson, Harbour		Aug.	...	65·4	48·1	56·8	−2·2	70·5	8	42·5	2, 30	...	...	...	...
Trust.		Sept.	...	64·5	45·9	55·2	+0·4	78·5	10	36·8	3	...	...	...	...
BALRUDDERY, (Forfar.)	280	July	29·677	63·4	47·5	55·5	−2·5	83·0	16	38·0	7	54·8	2·8	·351	82
George Davie, Gardener to		Aug.	29·500	62·2	44·6	53·4	−3·6	67·0	5, 9	37·0	24, 26, 30	53·3	2·6	·336	82
J. Martin White.		Sept.	29·760	63·2	44·0	53·6	−0·5	77·0	10	32·0	4	52·8	2·6	·330	82
PERTH, (Perth.)	105	July	29·865	64·7	48·2	56·5	−2·1	83·0	16	37·0	7	55·3	2·6	·364	83
John Leslie, Gardener to		Aug.	29·682	62·9	46·0	54·5	−3·1	67·0	21	36·0	26, 30	53·6	2·6	·339	82
Henry Coates.		Sept.	29·942	62·8	43·9	53·4	+0·1	75·0	10	30·0	4	51·8	1·7	·341	88
STRONVAR, (Perth.)	422	July	...	64·9	47·7	56·3	−0·7	85·0	18	40·0	1, 2	54·9	2·9	·350	81
G. Dickson, Gardener to		Aug.	29·332	60·7	45·9	53·3	−2·7	64·0	1	39·0	16	52·3	2·5	·327	84
James Carnegie.		Sept.	29·598	61·6	43·6	52·6	+0·6	73·0	10	35·0	3	51·7	2·1	·329	86
CRIEFF, (Perth.)	436	July	29·512	64·0	48·4	56·2	−1·6	84·0	17	40·5	7	55·1	3·0	·351	81
The Hydropathic.		Aug.	29·333	61·3	46·6	54·0	−2·8	65·0	9, 14, 25	39·0	2	53·0	3·3	·315	78
Dr Meikle and G. Reid.		Sept.	29·589	62·2	44·7	53·5	+0·7	74·0	10, 20	34·0	3, 4	52·4	2·3	·333	85

* At 8 a.m. and 6 p.m.

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
9·1	19	1·79	– 1·18	0·29	28	0	1	0	1	26	0	0	2	6	2	6	0	0	8	16	22	2·0
7·5	27	2·80	– 0·42	0·40	28	0	0	0	0	13	0	2	1	2	0	6	1	10	11	14	17	2·6
5·5	15	1·02	– 1·60	0·31	1	0	0	0	4	8	1	0	3	3	2	6	1	2	9	9	25	1·8
7·5	20	2·58	– 0·21	0·50	28	0	0	0	2	14	3	1	18	7	3	1	0	6	8	19	0	4·3
6·6	27	3·14	– 0·25	0·49	28	0	0	0	0	7	1	3	3	0	2	2	3	5	26	21	0	4·6
5·1	15	1·36	– 1·33	0·34	2	0	0	0	2	3	3	3	3	1	1	1	2	11	27	14	0	4·2
6·5	14	1·72	– 1·16	0·56	7	0	0	0	2	1	0	0	0	11	6	7	6	14	1	17	0	2·1
6·3	19	2·68	– 0·43	0·46	18	0	0	3	0	3	0	0	1	3	3	3	6	21	10	15	0	2·4
4·5	7	1·05	– 1·72	0·43	4	0	0	0	5	5	5	0	1	4	0	3	9	31	6	6	0	2·1
7·3	16	1·40	– 1·50	0·29	8	0	0	0	2	16	0	0	6	5	13	8	6	4	6	14	0	...
6·7	23	2·27	– 0·81	0·26	2	0	0	3	0	9	1	0	3	0	3	5	14	15	12	10	0	...
5·3	9	1·23	– 1·48	0·53	2	0	0	0	4	7	4	0	2	3	0	4	21	11	8	5	6	...
7·9	16	1·65	– 0·84	0·30	26	0	0	0	0	15	8	0	26	3	6	3	8	1	4	10	1	3·0
5·0	13	2·72	– 0·08	0·55	30	0	0	0	4	3	2	0	6	1	2	0	22	5	3	9	14	1·4
5·0	7	0·93	– 2·03	0·36	2	0	0	0	6	5	7	0	3	0	0	0	37	2	1	5	12	1·7
8·0	16	1·49	...	0·46	7	0	1	0	2	20	1	0	7	5	5	15	4	6	8	11	1	2·1
6·1	19	2·06	...	0·41	18	0	0	3	0	6	0	5	8	3	2	1	5	21	8	12	2	2·6
4·4	7	0·87	...	0·48	4	0	0	0	7	5	4	0	0	2	2	8	12	12	9	8	7	2·1
...	10	2·02	– 0·67	0·73	8	...	...	...	...	...	...	2	5	4	12	9	6	8	7	11	0	3·3
...	17	2·41	– 0·73	0·34	13, 27	...	...	...	...	...	..	1	4	1	5	7	9	22	10	4	0	3·7
...	6	1·05	– 1·68	0·40	9	...	...	...	...	...	...	2	2	2	7	5	12	20	11	1	0	3·3
8·1	16	2·17	– 0·52	0·71	7	0	0	0	0	17	2	2	2	10	9	10	2	9	6	14	0	3·0
6·3	23	2·83	– 0·05	0·42	12	0	0	0	0	7	2	5	2	5	4	6	2	16	23	3	1	3·1
5·6	9	0·98	– 1·40	0·46	4	0	0	0	5	10	7	2	5	3	5	8	5	14	11	6	3	2·6
7·4	19	2·35	– 1·23	0·98	7	0	0	0	1	11	6	2	3	5	8	14	5	6	12	4	5	2·5
...	25	4·16	+ 0·29	0·77	28	0	0	0	...	...	3	1	0	1	2	2	1	9	30	17	0	3·8
...	9	1·43	– 2·19	0·42	2, 5	0	0	0	...	...	3	3	0	1	1	4	1	10	27	16	0	4·3
9·1	18	2·37	– 0·54	0·79	7	0	0	0	0	22	2	0	0	10	4	19	0	14	7	8	0	1·7
8·1	23	3·87	+ 0·63	0·51	12	0	1	0	0	14	0	2	0	3	2	8	0	29	10	10	0	2·9
7·5	9	1·21	– 1·36	0·41	4	0	0	0	0	13	6	1	2	6	3	4	1	30	7	7	0	2·0
...	18	2·12	...	0·69	7	0	0	0	...	...	0	0	0	3	24	1	2	8	19	5	0	2·1
...	23	3·53	...	0·50	9	0	0	0	...	...	0	0	1	2	8	0	0	12	31	8	0	2·3
...	7	0·98	...	0·38	4	0	0	0	...	...	6	0	2	1	15	0	1	3	33	5	0	1·9
8·3	15	2·57	...	0·73	7	0	1	1	1	20	1	0	2	4	5	6	2	2	6	7	28	1·0
5·7	26	4·37	...	0·75	28	0	0	0	2	6	0	0	3	2	0	1	0	17	11	6	22	1·8
5·1	8	1·08	...	0·30	2, 4	0	0	0	9	8	3	0	0	2	2	0	3	15	16	8	14	1·6
7·1	14	2·34	– 0·68	0·73	7	...	...	...	1	11	...	...	1	3	2	8	0	1	12	5	30	...
6·2	18	3·56	+ 0·25	0·64	28	...	...	...	2	8	...	...	0	0	0	2	3	2	35	5	15	...
5·3	6	0·84	– 1·99	0·36	2	...	...	...	8	10	...	...	...	...	...	...	...	...	...	...	...	...
...	16	2·34	– 2·27	0·57	7	0	0	0	...	...	0	0	3	15	0	14	0	15	10	5	0	...
...	25	8·25	+ 2·36	1·92	28	0	0	0	...	...	0	0	2	4	0	1	1	17	16	21	0	...
...	13	1·91	– 4·46	0·35	4	0	0	0	...	...	3	0	2	0	0	2	0	20	14	22	0	...
...	18	3·31	...	0·53	7	0	1	0	...	...	2	0	3	6	29	1	6	0	14	3	0	...
...	23	4·38	...	1·17	28	0	0	0	...	...	0	1	4	3	14	1	1	0	31	8	0	...
...	12	1·45	...	0·40	4	0	0	0	...	...	7	0	0	4	5	8	13	4	24	2	0	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BARO-METER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
CUPAR, (Fife.)	210	July	...	62·8	48·0	55·4	−2·4	82·0	16	40·0	7	...	...	...	...
Dr TURNBULL, Fife and		Aug.	...	62·0	47·0	54·5	−2·3	69·0	25	40·0	20, 27	...	...	...	...
Kinross Asylum.		Sept.	...	62·3	45·7	54·0	+1·1	75·0	10	34·0	4	...	...	...	...
BUCHLYVIE, (Stirling.)	125	July	29·847	67·2	49·0	58·1	+0·7	87·0	17	40·0	7	56·6	2·5	·386	84
Rev. JOHN A. MACDONALD.		Aug.	29·669	63·2	46·8	55·0	−2·0	68·0	5	35·5	2	54·4	2·3	·359	85
		Sept.	29·928	62·7	45·5	54·1	+0·6	74·0	10	31·5	3, 4	53·4	1·9	·356	88
HELENSBURGH,	18	July	...	64·4	49·4	56·9	−0·6	84·2	18	41·0	9	...	...	...	...
(Dumbarton.)		Aug.	...	61·4	47·4	54·4	−2·7	66·0	15	36·0	2	...	...	...	...
J. R. WILSON, Water Trust.		Sept.	...	62·3	45·6	54·0	+0·5	72·0	10	30·0	3	...	...	...	...
DUMBARTON, (Dumbarton.)	27	July	29·956	66·1	51·0	58·6	+0·3	85·2	18	44·5	2	56·9	3·4	·365	79
WILLIAM DENNY AND		Aug.	29·791	61·9	50·1	56·0	−1·8	65·5	14, 15	40·3	2	55·5	2·7	·365	83
BROTHERS.		Sept.	30·038	62·9	48·4	55·7	+1·4	75·0	10	39·0	3, 4	55·3	1·3	·399	91
LOCHBUIE, (Argyll.)	20	July	29·965	63·4	47·9	55·7	−1·3	79·0	17	41·2	25	...	...	...	...
J. T. MANNARY, Gardener to		Aug.	29·778	58·9	48·1	53·5	−3·2	62·5	18	38·4	2	...	...	...	...
The Maclaine of Lochbuie.		Sept.	30·019	60·9	47·1	54·0	+0·1	69·5	11	34·1	3	...	...	...	...
AIRDS, (Argyll.)	15	July	...	62·0	49·6	55·8	−1·0	76·0	15	45·0	2, 9	...	...	...	...
Colonel MACFIE, C.B., and		Aug.	...	58·2	48·2	53·2	−3·6	63·0	4	41·0	29	...	...	...	...
ALEXANDER M'LACHLAN.		Sept.	...	60·7	48·2	54·5	+0·7	72·0	10, 11	35·0	3	...	...	...	...
POLTALLOCH, Lochgilphead	135	July	29·842	65·4	49·9	57·7	−0·1	80·0	16, 18	43·0	2, 5	56·4	2·5	·382	84
(Argyll.)		Aug.	29·666	59·7	47·3	53·5	−3·4	64·0	9, 15	35·0	26	52·4	1·7	·346	89
D. S. MELVILLE, Gardener.		Sept.	...	61·8	46·1	54·0	+0·1	75·0	30	30·0	3	53·2	2·0	·349	86
ROTHESAY, (Isle of Bute.)	76	July	29·918	64·9	49·4	57·2	−0·2	83·0	17	41·0	7	56·0	2·7	·373	83
R. HENDERSON and D.		Aug.	29·757	60·8	49·0	54·9	−1·8	65·0	14	40·0	2	53·9	2·6	·343	83
PENNEY, Glenburn		Sept.	29·984	61·6	49·4	55·5	+1·8	70·0	10	38·0	4	54·6	2·0	·370	87
Hydropathic.															
GREENOCK, (Renfrew.)	238	July	29·732	64·8	48·7	56·8	−0·6	83·0	18	41·0	7	55·9	3·2	·359	80
DANIEL MACALISTER, C.E.,		Aug.	29·569	60·3	47·4	53·9	−3·2	65·5	4	40·5	2	54·7	2·8	·351	81
Water Trust.		Sept.	29·825	61·5	47·3	54·4	+1·0	73·5	10	35·0	3	54·3	2·3	·357	84
PAISLEY, (Renfrew.)	107	July	29·861	66·4	50·5	58·5	−0·2	85·0	17	42·2	7	57·3	3·6	·366	78
DONALD MACLEAN,		Aug.	29·706	62·9	49·3	56·1	−0·9	69·0	12	40·3	2	55·3	3·0	·354	81
The Coats Observatory.		Sept.	29·954	63·9	48·2	56·1	+1·7	76·0	14	35·1	3	54·5	2·3	·360	84
KILMARNOCK, (Ayr.)	74	July	...	64·2	48·1	56·2	...	80·0	16	37·0	2	56·7	3·3	·365	79
GLENFIELD & KENNEDY, Ltd.		Aug.	...	61·2	47·4	54·3	...	73·0	17	35·0	2	54·8	2·7	·354	83
		Sept.	...	62·5	46·7	54·6	...	77·0	28	32·0	3	55·4	2·5	·368	84
BOWHILL, (Ayr.)	978	July	28·921	59·7	46·5	53·1	−0·7	73·0	17	39·0	1	53·4	2·4	·342	84
ALEXANDER GILLESPIE, C.E.		Aug.	28·786	56·6	44·4	50·5	−2·8	63·0	13	39·0	30	50·7	1·9	·322	88
		Sept.	29·030	58·3	46·0	52·2	+2·1	72·0	28	34·0	3	52·6	2·7	·326	81
GLASGOW, Belvidere Hosp.,	54	July	29·921	64·9	50·2	57·6	−1·2	84·2	16	42·5	7	55·9	3·1	·362	81
(Lanark.)		Aug.	29·765	61·9	49·4	55·7	−2·4	68·5	13	39·8	2	54·8	2·9	·350	81
Dr JOHN BROWNLEE.		Sept.	30·006	62·7	48·0	55·4	+1·1	77·2	10	36·1	4	54·0	2·2	·355	85
GLASGOW, Observatory,	184	July	29·778	63·4	50·5	57·0	−1·3	82·4	17	43·1	7	55·5	3·1	·354	80
(Lanark.)		Aug.	29·619	59·8	49·4	54·6	−2·8	66·0	13	42·2	2	53·9	2·6	·343	83
Prof. BECKER, F.R.S.E.		Sept.	29·866	60·1	48·7	54·4	+0·5	71·5	10	37·2	3	53·7	2·3	·349	85
BOTHWELL, (Lanark.)	150	July	...	64·2	49·0	56·6	−1·6	83·0	16, 17	41·4	7	55·5	2·8	·362	82
Dr JOHN T. WILSON.		Aug.	...	61·9	48·5	55·2	−2·0	67·8	9	37·0	30	53·9	2·3	·351	85
		Sept.	...	62·1	45·7	53·9	+0·2	76·0	10	30·9	4	53·2	2·4	·340	84

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	17	3·14	+0·55	0·40	9	...	...	...	...	...	...	0	8	0	30	4	1	0	12	6	1	1·4
...	22	3·20	−0·01	0·60	15	...	...	...	...	...	..	0	14	0	13	0	0	4	15	15	1	1·9
...	6	0·95	−1·89	0·37	5	...	...	...	...	...	...	0	10	0	12	0	1	1	24	8	4	1·7
7·1	20	3·00	−0·14	0·56	29	0	1	0	1	8	13	0	1	2	11	12	2	5	16	6	7	2·2
6·7	28	6·89	+1·69	0·89	28	0	0	0	0	4	10	1	2	0	5	2	0	22	21	9	1	2·7
6·1	18	2·40	−1·88	0·47	4	0	0	2	1	6	16	0	0	1	12	3	2	7	24	0	11	2·1
...	12	2·70	−0·62	0·78	12	...	...	...	...	...	...	...	2	2	24	2	4	10	16	2	0	...
...	29	7·05	+3·10	0·90	·28	...	...	..	...	...	...	...	6	0	18	0	8	12	18	0	0	...
...	10	1·99	−2·14	0·60	1	...	...	...	...	...	...	...	2	0	24	0	2	2	24	0	6	...
...	12	2·35	−0·81	0·76	12, 29	...	...	...	...	...	...	...	2	0	6	4	4	4	8	10	24	...
...	29	5·21	+1·18	0·68	28	...	...	...	...	...	...	...	4	0	2	6	0	6	16	22	6	...
...	12	1·61	−2·47	0·46	4	...	...	...	...	..	...	...	8	6	6	4	0	2	10	16	8	...
...	12	5·26	...	1·92	11	0	0	0	...	...	3	0	4	6	10	2	0	18	10	6	6	2·4
...	27	12·73	...	2·15	8	0	0	1	...	...	0	0	6	2	2	6	2	18	16	8	2	3·4
...	12	3·66	...	1·25	2	0	0	1	...	...	...	0	4	6	4	4	8	20	6	0	8	2·1
...	...	2·80	−1·64	...	...	...	...	...	...	...	...	0	13	3	8	6	2	11	19	0	0	2·2
...	...	7·92	+2·62	...	...	...	...	...	...	...	...	0	15	0	1	4	4	13	24	1	0	3·0
...	...	2·09	−3·57	...	...	...	...	...	...	...	...	0	4	1	6	10	10	12	17	0	0	1·9
6·4	17	3·81	−0·37	1·63	14	0	0	0	3	12	3	0	3	5	2	2	8	3	5	6	28	1·3
8·3	28	7·44	+2·69	1·01	30	0	0	0	0	18	0	2	5	2	0	1	0	20	19	4	11	2·8
7·1	16	2·59	−2·60	0·99	6	0	0	1	1	12	5	1	0	3	2	3	12	17	9	6	8	2·0
6·1	15	3·54	−0·85	0·93	12	0	0	0	3	7	1	0	1	4	16	1	1	2	17	10	10	1·6
7·1	28	6·45	+1·70	0·74	11	0	0	0	1	17	1	1	2	1	2	0	2	6	34	9	6	2·1
6·8	14	2·67	−1·85	0·96	1	0	0	1	2	12	11	0	3	0	18	0	4	4	18	0	13	1·6
6·7	17	2·59	−1·29	0·70	12	0	0	0	1	8	0	0	0	10	4	12	0	7	11	16	2	2·6
7·6	28	7·56	+2·10	0·96	28	0	0	0	0	12	2	0	0	0	2	6	2	19	22	10	1	2·5
7·2	15	2·01	−3·77	0·60	4	0	0	0	1	11	4	0	0	1	9	10	0	12	17	6	5	2·3
6·9	15	2·59	−0·21	0·80	12	0	1	0	2	14	8	0	5	3	20	0	3	1	14	5	11	1·5
6·7	26	5·33	+1·84	0·92	11	0	0	3	0	9	2	0	5	0	2	2	4	3	35	7	4	2·4
...	14	1·38	−2·32	0·40	4	0	0	2	...	...	...	0	2	0	8	0	5	1	16	9	19	1·2
...	12	2·69	...	0·87	12	...	...	...	...	...	...	0	0	1	22	1	7	10	15	6	0	2·0
...	26	4·37	...	0·72	14	...	...	...	...	...	...	0	1	0	2	4	2	20	25	8	0	2·5
...	9	1·39	...	0·33	4	...	...	...	...	...	...	0	0	1	10	8	3	22	15	1	0	1·8
7·8	14	2·47	...	0·97	12	...	...	...	0	15	..	0	4	5	9	10	5	7	11	11	0	1·7
8·7	28	5·29	...	0·57	19	...	...	...	0	19	...	0	4	1	0	3	10	19	17	8	0	2·3
7·7	16	1·66	...	0·56	4	...	...	...	0	14	...	0	2	0	0	13	13	19	6	7	0	1·8
7·7	15	2·75	−0·24	0·52	12	0	0	0	1	10	0	0	3	7	10	2	0	11	4	11	14	1·6
7·8	28	5·46	+1·98	1·28	11	0	0	0	0	15	0	0	6	4	7	0	0	4	1	27	13	1·6
7·5	9	1·24	−2·04	0·47	4	0	0	1	2	14	3	0	0	4	12	0	0	2	8	15	19	1·2
7·9	12	2·96	−0·34	0·70	29	0	0	0	0	17	0	0	1	13	9	1	1	10	13	4	10	2·4
8·0	25	5·28	+1·27	1·33	11	0	0	0	0	18	0	0	1	2	4	0	1	22	21	5	6	2·9
7·9	8	1·40	−2·29	0·51	4	0	0	1	1	18	3	0	1	3	10	4	1	19	14	2	6	2·1
...	19	2·66	−0·09	0·51	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	29	3·83	+0·91	0·89	14	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
...	14	0·62	−1·85	0·36	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of				Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
LEADHILLS, (Lanark.) James M'Farlane.	1300	July	...	62·0	43·0	52·5	−1·4	78·9	19	35·0	11, 30	51·8	2·2	·328	85
		Aug.	...	57·6	39·7	48·7	−4·0	62 0	8	32·0	31	47·9	1·7	·293	88
		Sept.	...	60·6	41·2	50·9	+1·7	76·1	28	29·0	4	50·4	2·4	·305	84
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. Dyson, F.R.S.	441	July	29·509	60·2	49·0	54·6	−2·1	77·1	16	42·8	7	53·5	2·4	·343	84
		Aug.	29·337	60·6	48·5	54·6	−1·3	66·1	4	42·6	2	53·2	2·7	·333	82
		Sept.	29·591	60·3	47·8	54·1	+1·3	76·3	10	36·7	3	53·4	2·7	·335	82
CORSTORPHINE, (Edinburgh.) Dr T. N. Johnston, F.R.S.E.	165	July	29·793	63·1	49·8	56·5	−0·9	81·6	16	43·8	5	55·0	2·9	·352	82
		Aug.	29·630	62·3	48·6	55·5	−0·5	68·1	4	39·9	30	54·1	2·9	·338	80
		Sept.	29·877	62·2	46·2	54·2	+1·2	78·4	10	35·0	3	53·3	2·4	·341	83
LEITH, (Edinburgh.) James Bolam, Nautical College.	76	July	29·899	62·6	50·7	56·7	−1·8	81·8	16	44·9	7	54·9	3·0	·349	80
		Aug.	29·727	62·6	50·2	56·4	−1·3	69·8	4	45·0	20	54·3	2·9	·341	80
		Sept.	29·984	61·5	49·3	55·4	+0·1	71·3	10	40·0	3	54·1	2·2	·356	84
DALKEITH, (Edinburgh.) J. Whytock, Gardener to the Duke of Buccleuch.	190	July	29·769	63·7	48·8	56·3	−1·7	81·0	16	42·0	3	55·0	2·7	·357	83
		Aug.	29·612	62·4	47·7	55·1	−1·9	68·0	4	40·0	30	54·3	3·0	·339	80
		Sept.	29·857	62·5	44·5	53·5	+0·1	78·0	10	35·0	4	54·2	2·8	·342	81
SMEATON, (Haddington.) John Black, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	July	29·873	66·5	48·0	57·3	−2·1	83·0	16	42·0	27	55·9	2·6	·374	84
		Aug.	29·710	63·5	47·0	55·3	−2·8	73·0	5	39·0	30	55·3	2·4	·369	84
		Sept.	29·943	62·6	46·0	54·3	+0·4	73·0	11	34·0	4	53·2	2·3	·343	84
HADDINGTON, (Haddington.) D. Macrae, Superintendent, District Asylum.	240	July	29·719	62·3	...	...	...	80·0	16	...	...	56·3	3·2	·364	80
		Aug.	29·562	62·5	...	...	...	68·0	4	...	...	54·7	2·5	·358	83
		Sept.	29·808	62·9	...	...	...	75·0	11	...	...	54·5	2·4	·357	84
MARCHMONT, (Berwick.) John A. Wood, Gardener.	500	July	...	60·9	46·1	53·5	−3·4	78·0	16	38·0	10	53·7	2·7	·338	82
		Aug.	...	60·8	46·2	53·5	−2·7	66·5	4	35·0	30	53·8	3·1	·332	80
		Sept.	...	62·6	44·4	53·5	+1·3	75·0	10	35·0	3	53·7	2·7	·338	82
DUNS CASTLE, (Berwick.) James Redpath, Gardener to F. S. Hay.	500	July	29·443	62·1	46·7	54·4	−2·5	80·0	16	41·0	3, 11	53·6	2·7	·338	81
		Aug.	29·280	62·6	45·1	53·9	−2·1	67·0	4, 12	35·0	30	53·2	2·7	·333	82
		Sept.	29·532	64·7	43·7	54·2	+1·9	77·0	10	30·0	4	52·7	2·3	·336	65
BROOMLANDS, (Roxburgh.) James Brunton.	205	July	29·764	63·2	47·9	55·6	−2·4	80·0	16	40·0	11	54·7	2·4	·360	84
		Aug.	29·605	62·7	46·0	54·4	−2·7	71·0	4	35·0	31	55·1	2·7	·358	82
		Sept.	29·866	64·1	45·2	54·7	+1·4	77·0	10	33·0	3	53·3	1·7	·359	58
WOLFELEE, (Roxburgh.) Arthur Hume, Gardener to J. T. S. Elliot.	537	July	29·403	63·0	47·5	55·3	−1·6	80·0	16	39·0	2	54·1	2·2	·356	84
		Aug.	29·260	62·0	45·5	53·8	−2·3	70·0	4	34·0	30	53·4	2·1	·350	86
		Sept.	29·489	63·9	43·5	53·7	+1·1	76·0	10	34·0	3, 4	52·0	1·8	·340	87
DRUMLANRIG, (Dumfries.) David Inglis, Gardener to the Duke of Buccleuch.	191	July	29·775	65·0	48·9	57·0	−1·0	82·0	17	39·5	23	56·3	2·6	·379	83
		Aug.	29·644	62·0	47·6	54·8	−2·0	67·0	12	32·6	30	54·1	1·8	·367	87
		Sept.	29·872	63·2	43·7	53·5	+0·2	77·2	28	28·5	4	51·9	1·9	·336	85
DUMFRIES, (Dumfries.) Rev. William Andson.	60	July	29·941	67·5	51·7	59·6	+0·5	84·8	17	43·0	11	58·2	3·8	·374	77
		Aug.	29·785	64·1	48·5	56·3	−1·9	69·0	12	35·8	30	55·6	2·9	·362	81
		Sept.	30·024	64·9	45·8	55·4	+0·8	78·5	28	29·5	4	55·2	2·5	·365	84
CARGEN, (Kirkcudbright.) Alex. Peacock, Gardener to Colonel Dudgeon.	85	July	29·906	66·4	49·4	57·9	−0·9	81·4	16	40·0	2, 11	58·8	2·2	·428	87
		Aug.	29·782	62·7	47·8	55·3	−2·4	66·0	12	34·0	30	55·6	2·0	·386	87
		Sept.	30·005	64·0	45·3	54·7	+0·2	74·0	10	29·0	4	55·4	1·9	·385	88
CALLY, (Kirkcudbright.) Wm. Thomson, Gardener to Col. F. Murray Baillie.	120	July	29·860	66·9	48·2	57·6	−0·5	82·0	16	37·4	11	57·2	2·0	·409	87
		Aug.	29·767	63·2	46·3	54·8	−2·0	67·3	1	34·0	30	55·4	2·1	·379	87
		Sept.	29·964	63·3	45·0	54·2	+0·3	74·8	28	30·4	4	54·8	2·3	·365	86

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0-10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0-12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	16	4·56	...	0·89	7	0	1	1	...	...	7	1	0	12	2	2	10	14	5	17	0	...
...	27	8·74	...	1·42	15	0	0	0	...	...	9	3	...	...	...	...	...	...	...	...	...	...
...	14	0·92	...	0·31	5	0	0	1	...	...	8	0	3	0	3	10	14	22	5	3	0	...
8·0	14	2·49	−0·11	0·77	4	0	0	1	0	15	3	1	4	15	6	2	3	9	16	4	3	2·2
6·1	22	3·52	+0·80	0·91	14	0	0	0	1	10	1	1	0	3	3	4	5	18	26	1	2	3·1
5·9	9	1·30	−0·87	0·51	2	0	0	0	3	10	7	0	1	0	2	8	11	4	29	1	9	2·0
7·9	16	2·81	...	0·71	4	0	0	1	0	16	3	0	0	3	22	1	0	5	19	3	9	1·7
6·8	26	3·91	...	0·93	11	0	0	0	0	6	0	0	0	3	6	1	0	12	20	12	8	2·6
5·7	13	1·11	...	0·47	2	0	0	0	3	7	4	0	1	1	5	1	0	19	12	5	16	1·7
7·8	14	2·93	0·00	0·72	4	0	0	1	1	16	2	0	4	4	18	2	6	0	24	4	0	2·8
6·7	20	4·00	+1·00	0·93	11	0	0	0	1	11	0	0	0	0	8	8	2	4	34	4	2	2·5
6·4	9	1·99	−0·25	1·02	2	0	0	0	3	12	7	0	2	2	18	0	4	4	28	2	0	2·5
8·4	11	2·84	...	1·08	29	0	0	1	1	24	2	0	4	5	10	2	4	12	17	7	1	1·1
6·5	14	2·55	...	0·75	14	0	1	0	2	9	0	0	0	2	1	3	2	20	32	1	1	1·4
5·8	6	1·51	...	0·49	2	0	0	0	4	10	5	0	0	2	1	1	5	15	21	0	15	0·9
...	12	2·50	−0·57	0·54	8	0	0	1	...	...	4	0	0	1	25	4	14	14	4	0	0	1·1
...	14	3·50	+0·60	0·91	12	0	0	1	...	...	0	1	1	1	5	1	18	23	12	1	0	1·8
...	4	1·41	−0·88	0·66	2	0	0	0	...	...	12	1	0	1	11	0	15	8	25	0	0	1·3
...	13	2·80	...	0·68	4	0	0	1	...	...	0	0	1	0	27	2	0	1	27	1	3	1·1
...	19	3·25	...	0·84	14	0	0	0	...	...	0	0	0	0	6	1	0	13	36	6	0	1·6
...	6	1·83	...	0·83	2	0	0	0	...	...	5	1	0	0	11	3	1	2	36	7	0	1·4
7·2	14	2·42	−0·92	0·60	4	0	0	3	1	15	2	0	7	0	24	2	2	5	14	8	0	2·3
5·3	18	2·95	−0·76	0·64	14	0	0	1	5	5	0	0	8	2	7	0	6	21	18	5	0	1·6
3·5	9	1·00	−1·91	0·37	4	0	0	0	13	6	3	0	5	4	7	4	6	12	16	6	0	0·7
8·3	14	1·74	−1·32	0·47	4	0	0	8	1	24	2	0	0	12	13	3	3	18	8	5	0	...
7·0	20	2·41	−0·70	0·41	9	0	0	3	3	11	0	0	2	7	2	3	1	25	17	5	0	...
4·8	8	1·05	−1·80	0·41	4	0	0	0	9	7	5	0	0	1	0	12	3	34	5	5	0	...
7·2	16	2·09	−0·73	0·38	4	0	0	1	0	6	1	0	2	7	16	4	0	28	1	1	3	2·3
6·3	20	2·82	−0·06	0·70	14	0	0	0	0	1	0	0	2	2	1	0	1	53	3	0	0	3·2
4·5	6	0·94	−1·48	0·32	11	0	0	0	1	2	3	0	0	2	5	1	0	40	1	0	11	2·2
6·7	19	3·10	+0·01	0·97	4	0	1	3	1	5	2	0	1	25	1	2	3	5	16	9	0	1·1
6·6	23	2·40	−1·01	0·43	14	0	0	1	1	5	0	0	0	1	4	4	3	13	25	12	0	1·9
5·2	5	0·49	−2·58	0·16	2	0	0	0	4	3	5	0	2	1	0	10	1	18	17	11	0	1·1
...	15	3·55	+0·18	0·76	4	0	0	1	...	...	1	0	4	4	0	3	4	20	5	22	0	...
...	24	4·79	+0·87	0·97	14	0	0	0	...	...	0	0	1	0	0	1	1	23	9	27	0	...
...	7	1·00	−2·88	0·43	1	0	0	1	...	...	0	0	4	0	2	2	1	21	8	22	0	...
...	13	1·53	−1·31	0·39	13	0	0	1	...	...	1	0	2	19	3	7	2	8	9	12	0	2·4
...	23	4·04	+0·05	0·88	14	0	0	1	...	...	0	0	1	0	0	5	4	23	16	13	0	3·1
5·7	5	0·61	−2·96	0·28	1	0	0	1	1	3	6	0	2	5	2	7	5	13	12	10	4	2·2
6·3	12	1·71	−1·44	0·38	12	0	0	1	0	3	...	0	0	0	2	9	22	10	12	7	0	1·3
6·1	20	4·63	+0·58	0·90	14	0	0	1	0	4	...	0	4	1	2	1	0	11	32	11	0	1·4
5·0	3	0·73	−3·02	0·38	1	0	0	1	4	1	...	0	4	0	3	8	9	6	28	2	0	1·4
...	13	2·11	−1·46	0·39	21	0	0	1	...	...	0	0	1	12	1	15	12	6	1	13	1	1·0
...	26	5·08	+0·36	0·50	7	0	0	0	...	...	4	0	2	10	0	8	2	15	3	22	0	2·0
...	10	0·88	−3·76	0·17	2	0	0	0	...	...	2	1	5	9	1	10	10	7	3	15	0	1·6

BRIGHT SUNSHINE.

STATIONS.		1907.	SUNSHINE.		
		Months.	Total Observed.	Difference from Average.	Percentage of Possible.
			hours.	hours.	%
BALTASOUND,	(Shetland.)	July	92	...	17
		Aug.	124	...	26
		Sept.	94	...	25
DEERNESS,	(Orkney.)	July	108	-36	19
		Aug.	84	-35	18
		Sept.	139	+30	37
INVERNESS,	(Inverness.)	July	121	-25	23
		Aug.	115	- 3	25
		Sept.	166	+77	44
FORT AUGUSTUS,	(Inverness.)	July	131	+31	25
		Aug.	85	- 5	18
		Sept.	121	+39	32
ABERDEEN,	(Aberdeen.)	July	129	-34	25
		Aug.	143	-10	31
		Sept.	183	+60	49
CRATHES,	(Kincardine.)	July	108	...	21
		Aug.	123	...	27
		Sept.	194	...	51
BALRUDDERY,	(Forfar.)	July	117	...	23
		Aug.	129	...	26
		Sept.	154	...	41
PAISLEY,	(Renfrew.)	July	146	+ 2	28
		Aug.	126	-18	27
		Sept.	114	+ 7	30
GLASGOW,	(Lanark.)	July	156	+12	30
		Aug.	117	-15	25
		Sept.	100	0·0	27
EDINBURGH,	(Edinburgh.)	July	132	- 38	25
		Aug.	157	- 4	34
		Sept.	136	+ 4	36
WEST LINTON,	(Peebles.)	July	...	...	...
		Aug.	119	...	26
		Sept.	146	...	39
DUNS CASTLE,	(Berwick.)	July	104	...	20
		Aug.	132	...	29
		Sept.	168	...	45
MARCHMONT,	(Berwick.)	July	117	-54	23
		Aug.	131	-17	29
		Sept.	170	+54	45

UNDERGROUND TEMPERATURE.

STATIONS.	1907.	UNDERGROUND TEMPERATURE.				
	Months.	Depth in Inches.				
		3	12	22	36	[illegible]
		°	°	°	°	°
DUNROBIN, (Sutherland.)	July	...	57·1	56·3	...	..
	Aug.	...	55·9	55·5	...	..
	Sept.	...	54·5	54·1	...	...
INVERNESS, (Inverness.)	July	...	56·3	...	...	54·8
	Aug.	...	55·2	...	...	55·4
	Sept.	...	53·9	...	...	54·1
ABERDEEN, (Aberdeen.)	July	...	...	...	...	51·1
	Aug.	...	...	...	...	52·3
	Sept.	...	...	...	...	51·3
CRATHES, (Kincardine.)	July	...	57·3	...	...	53·1
	Aug.	...	55·8	...	...	54·3
	Sept.	...	53·7	...	...	52·8
ARBROATH, (Forfar.)	July	55·2	54·6	53·2	...	...
	Aug.	53·6	54·1	53·9	...	...
	Sept.	52·0	52·5	52·5	...	...
POLTALLOCH, (Argyll.)	July	60·3	...	58·7	...	...
	Aug.	56·7	...	57·4	...	...
	Sept.	55·7	...	56·2	...	...
ROTHESAY, (Bute.)	July	...	...	...	...	53·6
	Aug.	...	...	...	...	54·3
	Sept.	...	...	...	...	53·4
PAISLEY, (Renfrew.)	July	57·5	56·7	56·3	...	...
	Aug.	55·9	55·0	55·9	...	...
	Sept.	53·4	53·8	54·9	...	...
CORSTORPHINE, (Edinburgh.)	July	57·7	57·9	56·9	54·3	53·3
	Aug.	55·4	57·0	56·3	55·5	55·2
	Sept.	53·2	54·9	54·7	53·9	54·1
SMEATON, (Haddington.)	July	59·4	59·7	58·4	...	...
	Aug.	57·7	58·4	58·0	...	...
	Sept.	54·2	54·9	55·2	...	...
MARCHMONT, (Berwick.)	July	57·5	56·5	56·5	...	...
	Aug.	55·9	55·8	56·3	...	...
	Sept.	52·7	53·8	54·5	...	...

NOTES ON THE NUMERICAL RETURNS OF SCOTTISH METEOROLOGY FOR THE QUARTER ENDING 31st DECEMBER 1907.

By Mr A. Watt, M.A., F.R.S.E., under the Direction of the Council of the Scottish Meteorological Society.

These returns are founded on the observations made, morning and evening, at 62 of the Stations of the Scottish Meteorological Society, and have been prepared from the Observers' separate schedules.

From the individual results for each station, the following collective results have been obtained, assuming them to have been equally well observed, and to represent the whole country:—

COLLECTED RETURNS FOR ALL THE ACCEPTED STATIONS OF THE SCOTTISH METEOROLOGICAL SOCIETY, HAVING A MEAN LATITUDE = 56° 33′ N.; MEAN LONGITUDE = 3° 45′ W.; AND MEAN ELEVATION =279 Feet.

1907.	BAROMETER at 32° F. and Sea-level.	SELF-REGISTERING THERMOMETERS.					HYGROMETER.				RAIN.		Cloud. Scale of 0-10.	Recorded Sunshine.
		Mean Max.	Mean Min.	Mean Temp.	Absolute Max.	Absolute Min.	Dry Bulb.	Dep. of Wet Bulb.	Vapour Pressure.	Hum. %	Days.	Amount in Inches.		
	inch	°	°	°	°	°	°	°	inch.					hours.
Oct.	29·611	53·1	41·6	47·4	70·0	20 0	47·0	1·6	·284	89	23	5·62	7·0	*
Nov.	29·895	47·0	35·9	41·5	59·7	15·0	41·1	1·6	·224	87	17	3·15	6·3	*
Dec.	29·628	42·7	34·2	38·5	54·2	10·0	38·5	1·5	·203	87	21	4·67	7·3	*

1907.	MEAN UNDERGROUND TEMP.					WIND—NO. OF OBSERVATIONS.										Thunder heard.	
	3 Inches	12 Inches.	22 Inches.	36 Inches.	48 Inches.	N	NE	E	SE	S	SW	W	NW	Calm or Var.	Force 0-12.	No. of Stations.	Mean No. of Days.
	°	°	°	°	°												
Oct.	47·8	49·2	50·3	51·3	51·2	4	8	11	7	7	9	7	4	5	2·3	17	1
Nov.	41·2	43·1	44·6	46·1	47·1	4	3	8	5	6	11	12	6	5	2·5	9	1
Dec.	37·4	38·3	39·5	40·4	42·2	3	4	10	7	8	13	10	4	3	2·6	4	1

* Returns for the individual stations having Sunshine Recorders are given on p. 62.

And when these returns are compared with the averages of 1856–1905, during the same months, they show the following characteristics and differences:—

OCTOBER 1907—

Mean Barometric Pressure, 29·611 inches; less than the average of 1856–1905 by 0·203 inch.
Mean Temperature, 47°·4; greater by 0°·8.
Mean Daily Range of Temperature, 11°·5; less by 0°·6.
Mean Humidity, 89 per cent.; greater by 2 per cent.
Rain, Number of Days, 23; greater by 6 days.
Rain, Depth in Inches, 5·62; greater by 1·58 inch.
Wind, Mean Force (on Scale of 0–12), 2·3; less by 0·5.
Wind, Direction of: a 5 days' excess of winds from between N.E. and S.E.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·0; greater by 0·6.

NOVEMBER 1907—

Mean Barometric Pressure, 29·895 inches; greater than the average of 1856–1905 by 0·061 inch.
Mean Temperature, 41°·5; greater by 0°·6.
Mean Daily Range of Temperature, 11°·1; greater by 0°·7.
Mean Humidity, 87 per cent.; less by 1 per cent.
Rain, Number of Days, 17; being the average.
Rain, Depth in Inches, 3·15; less by 0·65 inch.
Wind, Mean Force (on Scale of 0–12), 2·5; less by 0·3.
Wind, Direction of: a 1 day's excess of winds from E.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 6·3; less by 0·2.

DECEMBER 1907—

Mean Barometric Pressure, 29·628 inches; less than the average of 1856–1905 by 0·152 inch.
Mean Temperature, 38°·5; greater by 0°·4.
Mean Daily Range of Temperature, 8°·5; less by 1°·0.
Mean Humidity, 87 per cent.; less by 1 per cent.
Rain, Number of Days, 21; greater by 4 days.
Rain, Depth in Inches, 4·67; greater by 0·54 inch.
Wind, Mean Force (on Scale of 0–12), 2·6; less by 0·2.
Wind, Direction of: a 5 days' excess of winds from between E. and S.
Hours of Sunshine, *v.* p. 62.
Mean Amount of Cloud, 7·3; greater by 0·8.

OCTOBER 1907—

Hence the month of OCTOBER 1907 was characterised by an extremely low mean pressure; a rather high mean temperature, with a rather low mean daily range; a very high mean rainfall; a large excess of easterly winds.

The mean pressure of 29·611 inches was 0·203 inch below the normal, and the lowest mean recorded for October during the last fifty years, except in 1872 and 1903. Conditions were in complete contrast to those of September; there was a practically continuous succession of disturbances, and our area never lay under the influence of a high-pressure system. At Leith the sea-level extremes were 30·115 ins. on 31st and 29·004 ins. on 18th.

The mean temperature was 47°·4, or 0°·8 above the normal, the days being 0°·5 and the nights 1°·1 above their respective averages. As a rule, the temperature excess of the month was well marked. The maximum occurred at most stations between 4th and 6th, Gordon Castle reaching 70°·0 in shade on 5th, and Lairg and Haddington 66°·0 on the same day about this time, and towards the end of the month the weather was unusually warm for the time of year. Lowest temperatures occurred as a rule on 8th, but in West and South on 27th. The lowest shade readings reported were 20°·0 at Lednathie on 8th, 22°·0 at Kingussie on 15th, and 25°·5 at Lairg on 8th.

The mean rainfall was 5·62 inches, or 39 per cent. above the normal. The distribution was very irregular. Thus, towards the North West and North there was a decided deficiency, considerable areas having less than half the normal. On the other hand, in North East, East and South there was a pronounced excess, which appears to have been relatively greatest in the Lothians, where several stations had as much as thrice the normal October rainfall. The aggregate of 7·90 inches at Edinburgh was an inch above any October rainfall for at least 100 years, the closest approach being October 1864 with 6·90 inches. In South and South West, however, the month was less wet than October 1903. On 15th a wet period of ten days culminated in a great rainstorm in Eastern and Southern districts. Blackford Hill Observatory, Edinburgh, registered 3·13 inches in 24 hours, Corstorphine 2·95 inches, and Glasgow 2·45 inches. On that day, North Western districts were visited by only slight falls. Over a large part of the country the weather was almost continuously wet from 5th to 24th, with very heavy falls in various districts on 6th, 7th, 8th, 13th, 15th and 17th.

Early in the month touches of wintry weather were experienced, whilst the heavy rains of 15th were accompanied by a severe thunderstorm in East and South East.

Wind of gale force was reported on the East coast on 17th, and on the West on 18th and 19th.

Coast fog occurred at times in East and North.

Sunshine was decidedly deficient.

Auroras noted at Baltasound on 8th, 9th, 14th, 15th and 27th, and rather widely on one or more of these days.

NOVEMBER 1907—

Hence the month of NOVEMBER 1907 was characterised by a rather high mean pressure; a slightly high mean temperature, with a slightly high mean daily range; a rather low mean rainfall; and a nearly average distribution of winds.

The mean pressure of 29·895 inches was 0·061 inch above the normal, and nearly three-tenths of an inch above the mean for October. Pressure was high during the first three weeks, except on 12th and 13th, but from 26th to 28th conditions were very unsettled. At Leith the sea-level extremes were 30·484 inches on 30th, and 28·948 inches on 26th.

The mean temperature was 41°·5, or 0°·6 above the normal, the days being 0°·9 and the nights 0°·2 above their respective averages. Some inland and Western stations showed a temperature deficiency, whilst towards the South East there was a fairly well-marked excess. The first half of the month was decidedly mild, with highest temperatures in most districts on 4th, when the highest shade readings reported were 59°·7 at Leith, 59°·6 at Glasgow, and 59°·0 at Helensburgh. Thereafter conditions were more variable, with short spells of rather severe frost around 18th and 26th. The lowest shade readings reported were 15° at Balmoral on 26th; 18° at Kingussie on the same day; and 20° at Stronvar on 19th. At Balmoral the night temperatures fell below 30° on grass on 23 nights, at Crathes on 22 nights.

[*Continued on page* 336.

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	Mean of A. Maximum.	Mean of B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	
NORTH UNST, (Shetland.)	230	Oct.	29·395	...	...	...	...	...	...	...	...	47·8	...	...	...
Principal Keeper of the		Nov.	29·567	...	...	...	...	...	...	...	...	43·9	...	...	...
Lighthouse.		Dec.	29·370	...	...	...	...	...	...	...	...	42·6	...	...	...
BALTASOUND, (Shetland.)	50	Oct.	29·600	50·7	43·6	47·2	...	54·0	3, 22	32·0	8	47·6	0·8	·310	95
Dr T. EDMONDSTON SAXBY.		Nov.	29·769	46·9	38·9	42·9	...	51·2	14	31·9	25	43·6	1·1	·259	91
		Dec.	29·572	43·7	37·6	40·7	...	47·5	3, 17	30·5	28	41·1	1·0	·236	92
LERWICK, (Shetland.)	80	Oct.	29·597	50·4	...	...	...	55·0	8, 26	...	...	48·0	1·5	·297	90
Capt. G. ALLISON,		Nov.	29·796	46·4	40·1	43·3	−0·6	51·0	14	32·0	28, 29	43·7	1·7	·247	86
Harbour Master.		Dec.	29·603	43·5	38·1	40·8	+0·9	48·0	17	31·0	28	41·6	1·8	·226	86
DEERNESS, (Orkney.)	163	Oct.	29·439	51·2	44·5	47·9	+1·4	56·6	5	37·5	16	48·1	1·6	·296	89
M. SPENCE, Schoolhouse.		Nov.	29·652	47·1	40·5	43·8	+1·5	52·2	14	33·8	29	44·2	2·0	·246	85
		Dec.	29·404	43·9	38·1	41·0	+0·9	48·5	8	33·8	27, 28	41·3	1·8	·223	86
KIRKWALL, (Orkney.)	80	Oct.	29·579	52·1	43·2	47·7	+0·6	58·4	4	34·0	8	47·7	1·5	·294	89
WILLIAM T. SINCLAIR.		Nov.	29·804	47·5	38·7	43·1	+0·1	53·0	5	29·0	26	43·8	1·5	·253	88
		Dec.	29·553	43·4	37·5	40·5	−0·3	48·0	3, 18	28·0	31	40·3	1·9	·212	85
DUNROBIN, (Sutherland.)	16	Oct.	29·584	52·2	42·6	47·4	+0·4	58·0	2	32·5	8	48·0	2·1	·283	85
D. MELVILLE, Gardener,		Nov.	29·828	47·5	36·8	42·2	+0·5	53·5	2	30·5	25	41·9	1·8	·228	87
Dunrobin Castle.		Dec.	29·566	43·2	34·4	38·8	−0·1	50·5	17	28·5	30	39·1	1·7	·206	86
LAIRG, (Sutherland.)	390	Oct.	29·179	56·0	37·7	46·9	+1·3	66·0	5	25·5	8	44·4	1·5	·259	89
Rev. JOHN K. MACLEAN,		Nov.	29·409	47·1	33·6	40·4	+0·7	54·0	2, 5, 14	22·0	23	40·4	1·1	·228	91
M.A.		Dec.	29·131	40·8	30·8	35·8	−1·2	49·0	17	22·0	14, 29	35·6	1·0	·191	91
GLENCARRON, (Ross.)	504	Oct.	29·057	51·9	41·0	46·5	+1·2	60·8	1	31·0	17	46·1	2·4	·258	83
D. D. MUNRO.		Nov.	29·301	46·7	35·9	41·3	+0·7	?63·0	3	26·6	26	41·1	2·3	·210	82
		Dec.	29·019	42·3	34·1	38·2	+0·3	51·9	16	23·6	30	38·2	2·1	·190	83
MONACH, (Hebrides.)	150	Oct.	29·424	...	...	...	...	...	...	...	...	49·5	...	...	...
Principal Keeper of the		Nov.	29·661	...	...	...	...	...	...	...	...	45·5	...	...	...
Lighthouse.		Dec.	29·352	...	...	...	...	...	...	...	...	43·2	...	...	...
KINGUSSIE, (Inverness.)	828	Oct.	28·728	51·2	37·6	44·4	+0·6	61·4	5	22·0	15	44·8	2·1	·250	85
Dr WALTER DE WATTEVILLE.		Nov.	28·980	44·0	30·6	37·3	−1·1	57·9	3	18·0	26	38·1	1·7	·196	85
		Dec.	28·713	39·9	30·3	35·1	−0·3	48·3	4	17·4	15	35·7	1·3	·186	88
INVERNESS, (Inverness.)	114	Oct.	29·509	53·8	42·7	48·3	+1·4	64·2	1	30·5	8	47·2	1·8	·282	88
W. G. MACCONNACHIE,		Nov.	29·751	48·2	37·1	42·7	+1·0	57·2	4	25·0	26	42·3	1·9	·229	86
M.A.		Dec.	29·482	43·1	35·1	39·1	+0·4	52·5	17	26·8	30	38·8	1·7	·203	86
FORT AUGUSTUS, (Inverness.) Rev. CYRIL VON DIECK-	78	Oct.	29·517	52·6	41·2	46·9	+0·2	64·0	1	28·3	15	46·8	1·5	·282	88
HOFF, St Benedict's Priory.		Nov.	29·792	47·0	34·9	41·0	−0·5	56·3	2	25·7	7	40·6	1·5	·221	88
		Dec.	29·516	42·9	34·7	38·8	−0·1	51·9	17	24·5	15	39·3	1·8	·206	86
FORT WILLIAM, (Inverness.)	38	Oct.	29·546	52·7	42·0	47·4	+0·4	61·7	1	32·0	15, 27	46·9	2·1	·272	86
W. T. KILGOUR.		Nov.	29·842	47·0	36·5	41·8	−0·3	56·3	2	26·4	7	41·7	1·9	·225	86
		Dec.	29·550	43·7	35·8	39·8	−1·0	54·2	17	23·5	15	39·9	2·3	·201	82
GORDON CASTLE, (Banff.)	107	Oct.	29·485	54·6	40·3	47·5	+0·7	70·0	5	29·2	8	48·0	2·4	·276	83
C. WEBSTER, Gardener to		Nov.	29·736	47·9	35·4	41·7	+0·2	57·0	4	27·0	25	42·7	2·9	·214	79
the Duke of Richmond		Dec.	29·474	42·6	33·3	38·0	−0·8	52·0	17	21·5	30	38·8	2·4	·190	81
and Gordon.															
BALMORAL, (Aberdeen.)	927	Oct.	...	54·3	38·2	46·3	+2·4	64·0	5	26·0	8	...	...	...	...
J. MICHIE, M.V.O., and		Nov.	...	...	30·0	...	...	...	...	15·0	26	...	...	...	..
JOHN M. TROUP.		Dec.	...	40·4	29·4	34·9	+0·4	?48·0	17	10·0	30	...	...	...	...

SCOTLAND for the Quarter ending 31st December 1907.

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
7·8	...	...	...	...	...	0	0	0	0	13	7	0	8	7	8	10	15	4	5	1	4	3·3
7·3	...	...	...	...	...	0	0	0	1	12	0	2	1	5	3	3	21	12	9	4	2	4·2
7·9	...	...	...	...	...	0	0	0	0	15	0	2	6	4	7	9	24	6	3	2	1	4·1
6·6	31	3·50	...	0·61	15	0	2	0	1	6	10	0	4	10	12	10	10	4	8	3	1	2·6
6·5	27	5·53	...	1·78	22	3	2	1	1	6	5	3	2	2	5	5	16	10	11	9	0	3·4
6·2	28	3·22	...	0·57	22	0	3	0	0	7	1	3	5	6	8	16	15	5	3	2	2	3·1
...	24	3·35	...	0·46	17	...	...	...	...	...	2	1	7	5	6	3	25	7	5	0	4	3·5
...	23	4·51	...	1 02	22	...	...	...	...	...	6	4	7	0	3	3	25	8	6	7	1	4·2
...	20	3·31	...	0·56	22	...	...	...	...	...	1	7	8	6	2	5	21	15	4	0	1	4·6
7·1	19	3·18	− 0·70	1·16	15	0	0	0	1	13	6	3	3	13	3	19	8	6	6	4	0	4·3
6·1	18	2·45	− 1·40	0·27	19	0	1	0	1	12	0	7	2	2	3	10	15	11	8	8	1	5·2
6·5	20	3·01	− 0·86	0·88	13	0	3	0	3	10	2	8	2	3	5	16	20	8	6	2	0	5·4
...	20	2·80	− 1·42	0·84	15	...	...	...	...	...	..	0	2	4	8	4	26	14	4	0	0	3·0
...	21	3·47	− 0·64	0·46	12	...	...	...	...	...	...	1	4	2	0	8	22	8	10	6	0	3·2
...	22	3·44	− 1·20	0·98	13	...	...	...	...	...	...	3	0	0	8	2	40	8	4	0	0	32
...	14	2·01	− 1·25	0·35	9	0	0	0	...	...	1	1	1	0	29	9	1	6	5	6	5	2·5
...	11	2·50	− 0 70	0·91	26	0	0	0	...	...	1	0	4	4	9	3	1	8	13	9	9	2·4
...	14	2·81	− 0·52	0·78	13	0	0	0	...	...	0	0	9	4	17	1	4	5	11	8	3	1·4
4·7	26	1·57	− 2·34	0·26	10	0	0	0	3	1	5	0	11	3	11	6	0	1	9	1	20	2·2
6·3	22	3·09	− 0·64	1·25	26	3	1	1	3	7	3	3	5	1	11	2	5	2	12	8	14	2·8
5·7	26	4·01	+ 0·11	0·68	11	8	0	0	4	8	3	2	2	2	24	1	3	5	13	1	11	2·7
5·8	23	3·87	− 5·54	0·86	11	0	0	0	3	9	0	0	13	1	26	0	1	0	20	0	1	2·9
6·6	23	7·11	− 2·04	1·55	12	2	0	0	3	12	2	0	14	2	9	0	0	0	35	0	0	3·4
6·7	23	8·82	− 1·79	1·59	4	1	0	0	3	14	0	0	14	3	16	0	1	0	26	0	2	3·2
6·5	16	2·77	− 1·98	0·81	5	0	0	0	0	8	0	0	5	10	12	11	2	7	9	5	1	3·5
7·3	21	4·93	+ 0·07	1·15	13	0	0	0	1	14	0	7	4	4	3	6	4	15	12	12	0	4·4
8 5	23	5·55	+ 0·01	0·78	17	5	0	0	0	18	0	8	1	3	10	7	14	9	12	6	0	4·6
7·6	21	1·77	− 1·32	0·35	14	...	...	...	0	12	...	...	...	...	...	...	...	...	...	...	...	...
6·3	19	2·56	− 0·59	1·10	13	...	...	...	3	10	...	...	...	...	...	...	...	...	...	..	...	...
7·3	21	2·17	− 0·76	0·30	20	...	...	...	0	10	...	...	...	...	...	...	...	...	...	...	...	...
6·3	15	4·13	+ 1·65	0·90	15	0	0	0	0	8	6	0	2	11	9	2	3	9	20	5	1	1·2
6·1	12	2·02	− 0·42	0·46	12	0	0	0	2	5	7	1	1	1	6	3	4	27	17	1	0	1·2
6·5	16	1·92	− 0·54	0·80	13	4	0	0	2	8	6	1	2	2	7	4	2	20	20	4	1	1·4
7·1	21	2·14	− 2·16	0·42	15	0	0	0	1	16	3	2	2	20	2	1	9	11	2	1	14	2·3
6·4	17	3·16	− 1·40	0·68	12	2	0	0	2	8	2	2	2	6	3	0	6	21	7	2	13	2·1
7·5	19	5·14	− 0·63	1 40	10	5	0	0	0	15	2	1	2	12	1	1	7	16	11	5	7	2·5
8·3	22	3·55	− 4·26	0·56	11	0	0	0	0	21	7	0	0	19	6	0	4	18	1	0	14	1·6
6·4	22	6·32	− 1·28	1·18	12	0	1	1	1	7	5	2	0	8	8	0	2	24	6	0	12	1·9
8·0	24	8·97	− 1·38	1·67	9	6	2	0	1	20	2	2	0	6	11	2	6	25	6	0	6	2·5
7·1	22	5·06	+ 1·76	1·78	15	0	0	0	0	8	...	0	2	9	0	21	8	15	2	5	0	1·4
6·3	14	1·65	− 1·21	0·54	26	0	0	0	2	0	...	1	1	2	0	17	12	25	1	2	0	1·7
6·4	15	1·70	− 1·06	0·61	13	3	0	0	0	8	...	0	0	4	4	8	22	23	0	1	0	1·6
8·3	23	5·32	...	1·20	17	0	0	0	1	19	1	0	6	2	8	0	9	2	35	0	0	1·3
5·6	16	2·07	...	0·65	12	2	0	0	6	10	0	2	1	0	7	4	11	3	34	0	0	1·5
5·9	19	3·04	...	1·10	13	8	0	0	7	14	1	2	0	0	5	6	12	8	31	0	0	1·9

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907. Months.	BAROMETER. Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	AIR TEMPERATURE. Mean of A. Maximum.	B. Minimum.	Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum. Maximum.	Day of Month.	Minimum.	Day of Month.	HYGROMETER. Mean at 9 a.m. and 9 p.m. Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch.	%
LOANHEAD, (Aberdeen.) ALEX. FARQUHARSON.	747	Oct.	28·808	52·2	40·3	46·3	+1·7	65·0	6	27·0	8	46·4	0·9	·294	91
		Nov.	29·072	45·7	33·8	39·8	+1·2	57·4	4	22·0	26	40·2	1·2	·224	90
		Dec.	28·806	39·7	31·5	35·6	−0·7	47·0	17	20·2	30	36·6	1·1	·196	91
TILLYPRONIE, (Aberdeen.) ROBT. LITTLEJOHN, Gardener to Sir John F. Clark, Bt.	1120	Oct.	28·421	51·3	38·7	45·0	+1·5	64·7	5	28·7	8, 17	44·4	1·4	·260	89
		Nov.	28·674	45·1	33·1	39·1	+1·3	54·0	4	25·3	26	39·0	1·4	·210	89
		Dec	28·406	39·9	30·7	35·3	+0·4	46·0	19	24·2	30	34·8	1·2	·178	89
ABERDEEN, (Aberdeen.) PETER HARPER, Superintendent, Duthie Park.	44	Oct.	29·564	53·2	42·7	48·0	+0·8	61·0	5	30·6	8	47·9	1·4	·229	91
		Nov.	29·535	46·7	36·0	41·4	+0·1	53·5	4	27·0	19	42·1	2·0	·226	85
		Dec.	29·569	42·7	34·9	38·8	+0·6	50·0	17, 18	27·0	30	38·2	1·7	·197	86
ABERDEEN,* (Aberdeen.) King's College, The Meteorological Office.	90	Oct.	29·510	53·9	43·6	48·8	+1·9	63·0	5	33·0	8, 17	48·3	1·2	·309	92
		Nov.	29·788	47·4	37·5	42·5	+0·6	53·0	2, 4, 14	29·0	26	42·2	1·4	·239	90
		Dec.	29·538	43·6	35·6	39·6	+1·6	50·0	17	27·0	13	39·6	1·6	·211	87
PETERHEAD, (Aberdeen.) Dr W. H. M'WALTER, H.M. Prison.	100	Oct.	29·517	53·2	43·5	48·4	+0·4	60·0	4	33·1	7	49·6	1·8	·310	88
		Nov.	29·776	47·8	36·8	42·3	+0·0	52·9	2, 4	31·2	30	43·3	1·4	·250	89
		Dec.	29·512	44·3	34·6	39·5	−0·3	49·8	3	29·5	29	40·3	1·5	·219	88
CRATHES, (Kincardine.) J. SMITH, Pinewood.	145	Oct.	29·466	53·1	40·2	46·7	+0·5	62·5	4	26·0	8, 17	46·8	1·5	·284	89
		Nov.	29·754	47·3	32·7	40·0	+0·1	54·2	5	21·6	19	39·9	1·6	·214	87
		Dec.	29·484	41·5	31·1	36·3	−0·6	48·8	22	21·0	30	36·5	1·9	·181	83
MONTROSE, (Forfar.) (Royal Asylum), JAMES MASSON.	200	Oct.	29·399	51·9	42·8	47·4	+0·6	60·0	5	31·0	8	46·8	1·2	·291	91
		Nov.	29·677	46·6	35·6	41·1	+0·1	52·0	4	27·0	19	40·6	1·4	·223	89
		Dec.	29·430	41·8	33·8	37·8	−0·2	48·0	17, 22	29·0	13, 30	37·4	1·2	·200	90
ARBROATH, (Forfar.) JAMES CAMPBELL, "For the Natural History Assoc. of Arbroath."	68	Oct.	29·537	53·2	44·1	48·7	+1·8	59·0	2, 6	32·5	8	48·7	1·6	·304	89
		Nov.	29·832	47·0	37·3	42·2	+0·9	54·0	4	28·0	19	42·0	1·8	·229	86
		Dec.	29·571	43·5	35·4	39·5	+0·6	48·0	22	29·0	13	40·2	1·8	·211	86
LEDNATHIE, (Forfar.) W. G. LINDSAY, Gardener to Patrick Stormonth Darling.	720	Oct.	...	52·0	38·2	45·1	+0·7	62·0	4, 5	20·0	8	45·7	1·6	·270	89
		Nov.	...	46·1	31·7	38·9	+0·0	52·6	4	21·2	26	38·1	1·3	·[illegible]3	88
		Dec.	...	39·4	31·1	35·3	−0·1	44·8	18	22·3	15, 24	35·3	0·8	·191	93
DUNDEE, (Forfar.) Eastern Necropolis, J. CARNOCHAN, Curator.	164	Oct.	29·432	52·0	42·4	47·2	+0·7	59·2	6	31·2	8	46·3	0·8	·295	95
		Nov.	29·727	46·0	35·8	40·9	+0·2	55·5	4	26·3	25	40·1	1·0	·227	92
		Dec.	29·462	41·1	33·6	37·4	+0·0	47·5	17	26·0	1	37·4	0·9	·206	93
DUNDEE, Harbour, (Forfar.) J. H. THOMPSON, Harbour Trust.	20	Oct.	...	54·8	42·7	48·8	+0·4	61·8	6	36·0	8	...	...	...	...
		Nov.	...	47·3	37·2	42·3	+0·2	58·5	5	26·0	30	...	...	...	...
		Dec.	...	...	...	...	...	...	...	...	...	...	...	...	...
BALRUDDERY, (Forfar.) GEORGE DAVIE, Gardener to J. Martin White.	280	Oct.	29·304	53·9	41·2	47·6	+1·2	64·0	4	30·0	8	47·0	1·6	·284	89
		Nov.	29·596	47·7	36·5	42·1	+1·4	58·0	4	29·0	19, 25	40·5	1·5	·220	88
		Dec.	29·343	41·8	...	...	...	47·0	17, 22	...	...	37·1	1·2	·197	89
PERTH, (Perth.) JOHN LESLIE, Gardener to Henry Coates.	105	Oct.	29·496	53·2	40·3	46·8	+0·4	61·0	4, 5	26·0	8	45·6	0·9	·286	94
		Nov.	29·772	46·0	34·0	40·0	−0·9	57·0	4	22·0	25	38·1	1·1	·207	90
		Dec.	29·514	40·9	34·2	37·6	−0·1	48·0	22	25·0	1, 15	36·5	1·2	·193	89
STRONVAR, (Perth.) G. DICKSON, Gardener to James Carnegie.	422	Oct.	29·148	52·4	37·9	45·2	−0·4	63·0	4	26·0	27	45·2	1·5	·266	89
		Nov.	29·447	44·7	31·2	38·0	−1·8	54·0	4	20·0	19	38·3	1·3	·205	89
		Dec.	29·157	40·0	31·0	35·5	−1·4	49·0	17	21·0	15	36·6	1·1	·196	91
CRIEFF, (Perth.) The Hydropathic. DR MEIKLE AND G. REID.	436	Oct.	29·134	52·5	40·9	46·7	+0·4	64·0	4	29·0	8	46·4	1·7	·275	88
		Nov.	29·427	46·7	34·6	40·7	+0·7	56·5	5	26·0	19, 25, 26	39·9	1·5	·217	89
		Dec.	29·156	40·7	32·4	36·6	−0·3	48·0	17	26·0	1	36·6	1·1	·196	91

* At 8 a.m. and 6 p.m.

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0–10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0–12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
7·6	26	5·36	+ 2·17	1·12	17	0	0	1	3	20	0	1	5	8	3	10	2	3	3	11	17	1·1
6·6	19	1·67	− 1·32	0·40	26	3	0	0	4	13	0	1	2	4	1	13	1	2	5	14	18	2·4
6·9	22	3·17	+ 0·26	1·40	13	4	0	0	2	16	1	0	1	15	2	13	4	7	2	6	12	2·4
7·1	23	6·09	+ 2·99	1·19	17	0	0	0	0	12	11	4	8	2	3	11	6	9	16	7	0	4·8
6·4	20	1·91	− 0·95	0·37	26	3	0	0	2	10	3	6	4	1	2	6	5	7	15	20	0	4·7
6·3	22	3·23	+ 0·54	1·28	13	8	0	0	2	11	1	4	7	2	1	13	6	10	12	11	0	4·9
7·1	19	5·30	+ 2·30	1·18	17	0	0	0	2	10	4	0	1	12	3	6	21	13	3	3	0	1·8
6·0	12	2·28	− 0·95	0·69	26	0	0	0	3	7	2	1	0	8	0	9	5	22	13	8	0	2·1
5·3	18	3·46	+ 0·18	1·04	13	3	0	0	5	3	0	0	0	6	3	6	6	39	0	2	0	2·1
7·2	22	5·07	+ 2·13	1·20	17	0	0	1	0	14	3	0	7	7	5	9	14	8	5	6	1	...
6·9	15	2·13	− 1·09	0·62	22	0	1	0	2	14	0	0	3	1	2	7	12	11	13	10	1	...
6·9	21	3·48	+ 0·42	1·09	13	3	4	0	1	12	0	0	3	1	5	5	14	18	7	6	3	...
6·3	19	4·17	+ 0·79	0·69	16	0	0	0	2	12	3	0	10	3	4	5	21	3	0	5	11	2·1
5·9	11	1·59	− 1·64	0·46	23	0	0	0	5	11	2	2	3	0	8	4	26	1	1	8	9	2·4
5·9	17	2·31	− 0·61	0·71	13	0	2	0	2	7	1	1	1	3	1	3	29	6	2	3	14	1·8
6·7	19	5·54	...	1·68	9	0	0	2	3	16	7	1	2	8	7	11	9	8	9	2	6	2·5
6·7	12	2·49	...	1·05	26	2	0	0	7	17	1	0	1	3	1	7	14	5	19	9	1	2·3
6·8	18	3·58	...	1·11	13	7	3	0	5	16	4	1	0	1	2	9	13	16	12	3	6	2·0
...	15	4·99	+ 2·16	1·10	15	...	...	...	...	...	...	5	19	1	11	4	12	6	2	7	0	3·6
...	8	2·10	− 0·67	0·75	26	0	0	0	...	...	4	4	8	1	3	6	13	8	17	4	0	3·7
...	18	3·47	+ 0·66	0·68	20	5	1	·0	...	...	2	2	7	2	7	7	26	5	8	0	0	3·8
7·7	22	4·64	+ 2·25	1 01	15	0	0	1	1	18	4	4	15	10	7	8	6	6	6	4	0	3·4
5·9	21	1·83	− 0·49	0·36	26	1	0	0	6	12	3	9	13	3	3	6	5	9	12	8	1	3·4
6·6	26	2·85	+ 0·41	0·64	13	3	2	0	1	11	2	4	6	4	7	11	5	13	11	3	2	3·6
...	23	4·39	− 0·07	0·82	14	0	0	0	...	...	7	3	4	12	6	11	2	11	6	10	0	3·5
...	13	3·09	− 1·72	0·92	23	1	0	0	...	...	3	4	10	2	4	3	1	12	10	18	0	3·8
...	19	5·68	+ 1·31	1·38	13	5	0	0	...	...	5	8	5	8	4	6	3	10	13	13	0	4·1
8·8	21	5·29	+ 2·65	1·55	15	0	0	1	0	22	1	1	0	23	0	12	0	21	1	5	0	2·3
7·6	12	1·43	− 1·14	0·78	26	0	0	0	2	14	6	2	0	6	2	12	0	16	5	19	0	2·5
9·2	26	3·58	+ 0·88	0·98	13	7	2	0	1	27	9	3	0	15	0	14	0	24	7	2	0	2·7
6·3	23	4·32	...	1·15	15	0	0	0	3	6	3	2	0	4	23	1	2	6	25	0	1	2·6
5·8	15	0·98	...	0·49	26	0	0	0	1	4	0	4	2	1	14	0	4	3	30	5	1	2·3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7·1	22	5·04	..	1·56	15	0	0	1	2	12	1	0	8	6	8	11	6	10	5	5	3	2·3
5·1	11	1·94	...	1·00	26	0	0	0	8	8	0	2	7	1	8	0	15	4	10	12	3	2·2
6·4	25	3·45	...	1·24	13	4	0	0	5	14	1	1	12	1	9	4	14	7	8	4	3	2·2
5·6	21	4·79	+ 1·69	1·31	15	0	0	0	4	10	0	0	0	2	14	6	6	3	2	0	29	...
4·7	8	1·97	− 0·93	1·24	26	0	0	0	10	8	2	0	0	0	4	8	4	5	5	0	34	...
6·6	17	4·29	+ 1·13	1·57	13	3	0	0	3	13	5	1	0	0	8	9	3	9	8	0	25	...
8·1	22	5·67	− 1·87	1·00	18	0	0	0	0	19	0	0	2	12	6	19	3	12	4	4	0	3·0
6·6	17	5·53	− 2·08	1·18	12	0	0	0	4	13	0	4	0	2	5	12	0	9	24	8	0	3·2
8·5	25	9·06	− 0·16	1·20	4	4	0	0	0	20	0	0	1	2	17	7	0	16	13	6	0	3·5
...	22	5·05	...	0·90	15	0	0	0	...	...	2	1	1	1	21	5	6	8	20	0	0	2·1
...	15	2·81	...	0·98	26	1	0	0	...	...	4	2	8	0	12	2	3	6	24	5	0	1·8
6·8	23	5·36	...	0·97	13	6	0	0	1	8	8	2	3	7	19	3	3	4	20	3	0	2·6

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.	°	°	°	°	°		°		°	°	inch	%
CUPAR, (Fife.) Dr TURNBULL, Fife and Kinross Asylum.	210	Oct.	29·375	53·8	42·4	48·1	+1·6	62·0	4	27·0	8	...	...	...	...
		Nov.	29·681	47·4	35·3	41·4	+0·6	57·0	4	25·0	26	...	...	...	...
		Dec.	29·408	42·2	33·4	37·8	−0·4	47·0	17, 22	24·0	1	...	...	...	...
BUCHLYVIE, (Stirling.) Rev. JOHN A. MACDONALD.	125	Oct.	29·472	53·0	40·8	46·9	+0·6	63·0	4	27·0	27	46·4	1·1	·289	92
		Nov.	29·763	46·1	34·6	40·4	+0·8	57·0	4	21·0	25	39·9	1·2	·222	91
		Dec.	29·475	41·7	33·5	37·6	+0·4	51·0	17	21·0	1	37·8	1·0	·208	92
HELENSBURGH, (Dumbarton.) J. R. WILSON, Water Trust.	18	Oct.	...	53·6	41·8	47·7	+1·1	63·8	5	29·0	17	...	...	...	...
		Nov.	...	48·3	36·0	42·2	+1·0	59·0	4	22·5	30	...	...	...	...
		Dec.	...	43·4	33·9	38·7	−0·1	50·0	17, 18	24·5	15	...	...	..	...
DUMBARTON, (Dumbarton.) WILLIAM DENNY AND BROTHERS.	27	Oct.	29·568	54·6	43·1	48·9	+1·4	62·0	5	32·0	27, 28	48·5	1·9	·294	86
		Nov.	29·880	48·5	37·3	42·9	+1·2	57·5	5	27·0	19, 25, 26	43·1	1·8	·239	85
		Dec.	29·595	43 2	35·6	39·4	+0·1	51·0	17, 18	26·0	1	40·1	1·7	·214	86
LOCHBUIE, (Argyll.) J. T. MANNARY, Gardener to The Maclaine of Lochbuie.	20	Oct.	29·561	54·1	43·0	48·6	+0·2	61·2	2	33·2	14	...	...	...	...
		Nov.	29·883	49·6	37·6	43·6	−0·4	56·0	4	27·8	29	...	...	...	...
		Dec.	29·551	45·7	35·9	40·8	−0·5	51·7	18	31·0	30	...	...	...	...
AIRDS, (Argyll.) Colonel MACFIE, C.B., and ALEXANDER M'LACHLAN.	15	Oct.	...	54·0	43·5	48·8	+0·4	64·0	1	33·0	17	...	...	...	...
		Nov.	...	49·5	37·6	43·6	−0·4	58·0	2, 3	30·0	25	...	...	...	...
		Dec.	...	45·8	35·5	40·7	−0·9	?53·0	17	30·0	15	...	...	...	...
POLTALLOCH, Lochgilphead (Argyll.) D. S. MELVILLE, Gardener to Colonel Malcolm.	135	Oct.	29·444	53·7	39·6	46·7	−0·6	61·0	5	28·0	27	45·9	1·8	·266	87
		Nov.	29·760	48·7	34·2	41·5	−0 9	54·0	5, 8	24·0	29	40·7	1·9	·215	85
		Dec.	29·448	44·5	34·0	39·3	−0·5	52·0	17	26·0	15	38·3	1·6	·200	87
ROTHESAY, (Isle of Bute.) R. HENDERSON and D. PENNEY, Glenburn Hydropathic.	76	Oct.	29·519	53·5	44·0	48·8	+1·3	60·0	1, 4, 5, 12	33·0	26, 27	48·3	1·8	·294	88
		Nov.	29·826	48·0	38·2	43·1	+0·5	57·0	4	29·0	29	42 8	1·8	·236	86
		Dec.	29·537	44·6	37·5	41·1	+1·1	51·0	17	30·0	15	40·4	1·7	·216	87
GREENOCK, (Renfrew.) DANIEL MACALISTER, C.E., Water Trust.	238	Oct.	29·351	52·9	42·2	47·6	+0·7	59·2	1, 4	34·0	27, 28	47·8	1·6	·293	88
		Nov.	29·646	43·5	37·1	42·8	+1·0	57·0	5	28·0	26	43·2	1·5	·247	89
		Dec.	29·380	43·5	34·0	38·8	−0·6	51·7	17	28·0	1	40·4	1·4	·222	89
PAISLEY, (Renfrew.) DONALD MACLEAN, The Coats Observatory.	107	Oct.	29·468	53·6	43·6	48·6	+0·9	64·0	4	31·7	4	47·9	1·7	·291	88
		Nov.	29·782	48·1	38·0	43·1	+0·8	59·1	4	27·2	26	42·6	1·7	·237	87
		Dec.	29·504	43·9	36·1	40·0	+0·5	51·5	17	26·5	1	39·9	1·2	·222	91
KILMARNOCK, (Ayr.) GLENFIELD & KENNEDY, Ltd.	74	Oct.	...	53·4	42·5	48·0	...	61·0	5	30·0	27	47·2	1·9	·280	87
		Nov.	...	48·1	36·6	42·4	...	57·0	4	25·5	25, 29	42·4	1·9	·231	86
		Dec.	...	44·4	35·9	40·2	...	50·0	8, 17, 22	25·0	1	39·9	1·6	·214	87
BOWHILL, (Ayr.) ALEXANDER GILLESPIE, C.E.	978	Oct.	28·553	50·3	39·7	45·0	+1·8	58·0	1	30·0	15	45·1	1·7	·261	87
		Nov.	28·853	44·8	34·7	39·8	+0·8	53 0	2	27·0	25, 29	39·8	1·6	·213	88
		Dec.	28·579	41·6	32·2	36·9	+0·8	49·0	11, 21	25·0	30	37·0	1·3	·195	89
COLMONELL (Ayr.) A. BEATTIE.	140	Oct.	...	53·2	43·1	48·2	...	61·0	1	29·5	27	48·4	2·3	·283	84
		Nov.	...	48·9	37·2	43·1	...	57·3	4	26·5	30	42·5	1·4	·241	89
		Dec.	29·495	44·5	36·3	40·4	...	51·0	8	26·0	15	40·2	1·2	·224	90
GLASGOW, Belvidere Hosp., (Lanark.) Dr JOHN BROWNLEE.	54	Oct.	29·546	54·1	42·7	48·4	+1·2	61·2	1, 4	31·0	27	47·4	1·7	·286	88
		Nov.	29·848	47·6	37·9	42·8	+0·5	59·6	4	25·5	26	42·3	1·7	·234	87
		Dec.	29·575	43·8	36·3	40·1	+0·8	50·8	17	24·5	1	40·1	1·6	·216	87
GLASGOW, Observatory, (Lanark.) Prof. BECKER, F.R.S.E.	184	Oct.	29·389	52·3	44·2	48·3	+0·9	59·5	1	33·1	27	47·5	1·6	·290	88
		Nov.	29·703	46·5	38·4	42·5	+0·7	56·1	4	26·3	25	42·2	1·5	·237	89
		Dec.	29 424	43·2	36·2	39·7	+0·6	50·2	17	26·3	1	39·6	1·3	·217	89

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0-10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0-12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
6·1	27	5·91	+3·29	1·22	10	...	...	...	0	5	...	0	18	8	19	1	0	5	9	2	0	1·7
5·7	14	1·80	−0·79	0·49	27	...	...	...	0	3	...	0	7	4	12	3	2	10	14	8	0	1·5
6·2	22	2·95	+0·17	0·59	13	..	...	...	0	7	...	0	12	5	12	1	11	2	10	9	0	1·6
6·1	28	6·68	+2·06	1·99	15	0	0	0	1	8	13	0	1	1	14	9	3	18	8	2	6	2·3
5·5	20	3·48	−1·53	0·83	26	3	0	1	5	4	11	2	1	1	10	1	4	17	14	3	9	2·5
7·3	28	7·65	+1·70	0·90	4	7	2	1	0	10	10	1	0	0	13	7	4	18	14	1	5	2·8
...	22	5·40	+0·72	1·52	15	...	...	...	...	...	...	...	0	8	31	0	0	4	14	2	0	...
...	23	4·24	−0·51	0·55	22	...	..	...	...	...	...	...	6	0	22	4	2	0	26	0	0	...
...	23	6·89	+1·29	0·85	7	...	...	...	...	...	...	...	0	12	16	4	10	6	10	4	0	...
...	26	5·76	+1·07	1·78	15	...	...	...	...	...	...	...	14	4	16	14	0	0	0	6	8	...
...	23	3·98	−0·97	1·13	26	...	...	...	...	...	...	...	10	6	18	8	0	0	4	8	6	...
...	22	6·98	+1·80	0·87	4	...	...	...	...	..	...	...	10	10	8	8	0	8	2	6	10	...
6·3	19	5·48	...	1·30	4	0	1	0	5	8	...	0	2	16	18	6	4	8	0	2	6	2·9
5·6	19	9·39	...	1·55	26	0	1	1	6	8	...	1	2	10	12	0	6	12	6	4	8	2·8
6·7	19	8·79	...	1·26	7	1	0	0	1	11	...	3	4	2	18	10	10	12	4	0	2	3·6
8·1	...	2·73	−2·82	...	...	...	...	...	1	20	...	...	9	2	21	5	9	7	8	1	0	...
7·6	...	3·96	−1·53	...	...	...	...	...	1	14	...	...	5	0	16	10	13	4	10	2	0	...
8·5	...	5·76	−0·44	...	...	...	...	...	1	9	...	...	2	1	15	12	12	8	11	1	0	...
7·6	25	5·34	−0·25	0·92	17	0	0	0	2	17	0	1	2	9	3	9	13	6	6	5	9	2·3
7·0	22	5·03	−0·33	0·92	28	3	1	1	2	14	0	4	8	4	1	7	9	9	8	6	8	2·6
8·4	21	6·96	+1·26	1·14	8	1	0	0	0	20	0	6	3	4	4	10	8	10	15	6	2	3·7
7·1	24	6·32	+1·55	1·49	15	0	0	0	4	16	9	1	2	4	20	3	7	2	10	3	11	1·9
5·1	23	5·58	+0·73	1·04	16	1	1	0	5	6	9	2	2	2	14	1	8	5	12	4	12	2·0
7·6	25	7·56	+2·72	1·06	10	1	0	0	2	14	5	1	1	3	20	2	10	7	12	1	6	2·8
7·5	23	5·99	−0·17	1·89	15	0	0	0	0	12	4	0	0	12	6	14	0	12	6	12	0	2·6
6·8	24	5·44	−0·86	0·87	22	1	0	0	1	11	6	1	0	2	4	12	0	18	13	9	2	2·7
7·9	25	9·09	+1·61	0·99	10	4	3	0	0	16	6	1	0	0	3	22	0	18	10	6	3	3·2
7·4	25	6·60	+2·48	2·34	15	0	0	0	1	15	14	0	1	4	16	3	13	1	8	3	13	2·0
6·3	23	3·64	−0·35	0·82	26	1	1	0	4	11	11	1	1	0	10	0	11	1	20	0	17	1·9
7·6	25	7·30	+2·54	0·99	20	1	10	0	2	8	11	0	2	0	17	1	10	3	17	2	10	2·2
...	24	6·50	...	1·77	15	...	...	...	...	...	..	0	0	5	18	16	7	12	1	3	0	2·0
...	20	3·55	...	0·65	10	...	...	...	...	...	...	0	1	1	16	8	14	11	4	5	0	1·9
...	20	4·64	...	0·65	20	...	...	...	...	...	...	0	0	0	21	7	9	11	6	2	6	2·3
8·0	25	8·86	...	1·76	15	...	...	...	0	18	...	...	2	6	10	18	14	5	2	5	0	...
7·8	20	3·87	...	0·63	22	...	...	...	0	11	...	...	5	1	8	12	16	10	8	0	0	...
8·5	23	5·33	...	0·91	19	...	...	...	0	18	...	...	1	0	11	9	22	15	3	1	0	...
...	23	6·91	+1·92	1·59	15	1	0	2	...	...	0	1	0	10	14	16	0	8	6	8	0	...
...	17	5·86	+0·94	1·18	22	1	1	1	...	...	0	1	0	10	20	6	4	2	4	10	4	2·7
...	24	5·17	+0·27	0·59	19	4	2	1	...	...	0	2	2	4	12	14	0	16	8	4	2	3·4
9·0	24	6·87	+3·34	2·11	15	0	0	0	0	22	2	0	11	10	11	0	0	1	2	5	22	1·1
9·0	13	1·92	−1·65	0·35	27	1	0	0	0	21	3	1	6	4	14	2	0	1	2	6	25	1·3
9·7	19	5·13	+1·26	0·83	20	3	0	0	0	29	1	0	5	10	22	0	1	2	1	13	8	1·1
8·5	22	6·80	+3·06	2·45	15	0	1	0	0	22	2	0	0	15	12	5	3	8	4	1	14	2·1
7·4	14	2·23	−1·42	0·50	26	1	0	0	0	11	3	0	5	19	5	1	0	7	6	2	15	2·0
8·6	21	5·48	+1·35	0·71	20	3	1	0	0	21	2	0	1	8	14	4	4	20	3	1	7	2·8

STATIONS AND OBSERVERS' NAMES.	Height of Station above Sea level.	1907.	BAROMETER.	AIR TEMPERATURE.								HYGROMETER.			
				Mean of		Mean of A and B.	Difference from Average.	Absolute Maximum and Minimum.				Mean at 9 a.m. and 9 p.m.			
		Months.	Mean at Station at 32° Fahr. at 9 a.m. and 9 p.m.	A. Maximum.	B. Minimum.			Maximum.	Day of Month.	Minimum.	Day of Month.	Dry Bulb.	Depression of Wet Bulb.	Vapour Pressure.	Humidity.
	feet.		inch.											inch.	
BOTHWELL, (Lanark.) Dr John T. Wilson.	150	Oct.	...	52·5	42·0	47·3	+0·0	60·0	1	30·0	27	46·4	1·4	·282	90
		Nov.	...	46·4	35·7	41·1	+0·1	58·0	4	24·0	26	40·6	1·4	·223	89
		Dec.	...	43·0	34·8	38·9	+0·3	49·0	17, 19	22·0	1	39·4	1·8	·206	86
LEADHILLS, (Lanark.) James M'Farlane.	1300	Oct.	...	50·2	36·4	43·3	+0·6	59·0	4	28·0	27	40·7	1·0	·233	92
		Nov.	...	43·8	33·2	38·5	+1·6	50·5	3, 5	24·0	26	36·3	1·1	·194	91
		Dec.	...	39·2	30·2	34·7	+0·8	46·1	9	25·0	26, 30	34·2	1·1	·176	88
EDINBURGH, Royal Observatory, (Edinburgh.) Prof. Dyson, F.R.S.	441	Oct.	29·121	52·0	43·4	47·7	+1·7	61·2	5	34·8	16	47·3	1·7	·285	88
		Nov.	29·424	46·6	38·8	42·7	+1·6	55·3	4	29·9	25	42·4	2·0	·229	85
		Dec.	29·162	42·9	35·6	39·3	+1·2	48·8	8, 22	30·1	30	38·8	1·6	·205	87
CORSTORPHINE, (Edinburgh.) Dr T. N. Johnston, F.R.S.E.	165	Oct.	29·412	53·4	42·9	48·2	+2·2	63·4	5	31·6	8	47·0	1·6	·284	89
		Nov.	29·729	47·2	37·6	42·4	+0·9	59·5	4	25·8	25	41·0	1·5	·225	88
		Dec.	29·449	42·9	36·1	39·5	+1·1	49·2	19	24·8	1	38·7	1·5	·206	88
LEITH, (Edinburgh.) James Bolam, Nautical College.	76	Oct.	29·512	53·4	44·6	49·0	+1·6	63·7	5	35·4	8	48·2	1·6	·297	89
		Nov.	29·826	48·0	40·2	44·1	+1·7	59·7	4	29·5	25	43·1	1·7	·241	86
		Dec.	29·556	43·4	36·3	39·9	+0·3	50·7	17, 19	28·6	1	39·5	1·5	·212	88
DALKEITH, (Edinburgh.) J. Whytock, Gardener to the Duke of Buccleuch.	190	Oct.	29·397	53·5	41·8	47·7	+0·6	62·0	1, 4, 5	32·0	8	47·5	1·5	·291	89
		Nov.	29·702	47·6	37·1	42·4	+0·9	58·0	4	26·0	25	41·9	1·7	·230	88
		Dec.	...	42·9	34·6	38·8	+0·5	49·5	17	27·0	1	38·9	1·6	·206	88
SMEATON, (Haddington.) John Black, Gardener to Sir Archibald Buchan Hepburn, Bart.	100	Oct.	...	53·9	42·8	48·4	+1·6	61·0	6	32·0	8	47·9	1·5	·296	90
		Nov.	29·799	46·6	37·6	42·1	+1·2	55·0	4	29·0	19	41·8	1·4	·236	89
		Dec.	29·523	42·3	35·2	38·8	+0·6	48·0	7, 18	29·0	1, 30	38·8	1·7	·204	87
HADDINGTON, (Haddington.) D. Macrae, Superintendent, District Asylum.	240	Oct.	29·338	54·3	...	...	...	66·0	5	...	...	48·2	1·3	·305	91
		Nov.	29·654	47·3	37·7	42·5	+1·4	57·0	4	27·0	24	42·1	1·3	·240	90
		Dec.	29·379	42·4	...	...	...	51·0	8	...	...	38·8	1·5	·207	88
WEST LINTON. Rev. J. S. Begg, The Rectory.	800	Oct.	...	50·3	39·2	44·8	...	58·0	10	27·3	8	...	...	...	...
		Nov.	...	44·5	33·8	39·2	...	53·5	4	21·2	26	38·1	...	...	...
		Dec.	...	40·5	32·2	36·4	...	46·8	19	21·0	15	36·4	...	...	...
MARCHMONT, (Berwick.) John A. Wood, Gardener.	500	Oct.	...	52·9	40·8	46·9	+1·2	60·8	4	29·0	8	47·0	1·3	·291	91
		Nov.	...	46·3	35·8	41·1	+1·2	55·1	5	25·0	25	40·8	1·4	·225	89
		Dec.	...	41·7	32·7	37·2	+0·6	48·0	19	26·5	30	37·1	1·0	·201	91
DUNS CASTLE, (Berwick.) James Redpath, Gardener to F. S. Hay.	500	Oct.	29·062	55·4	40·3	47·9	+2·2	63·0	6, 7	30·0	8, 24	46·7	1·1	·293	92
		Nov.	29·370	47·4	35·1	41·3	+1·2	55·0	4, 14	24·0	25	40·3	1·4	·221	89
		Dec.	29·097	42·5	31·8	37·2	+0·5	49·0	19	26·0	4	36 8	1·1	·197	91
BROOMLANDS, (Roxburgh.) James Brunton.	205	Oct.	29·386	55·3	41·5	48·4	+1·9	64·0	2, 4	27·0	8	47·6	1·2	·300	92
		Nov.	29·706	48·8	34·3	41·6	+0·9	56·0	14	22·0	19	40·4	1·4	·222	89
		Dec.	29·447	43·8	32·9	38·4	+0·7	50·0	19	23·0	30	38·7	1·4	·208	89
WOLFELEE, (Roxburgh.) Arthur Hume, Gardener.	537	Oct.	29·014	53·5	39·8	46·7	+1·4	63·0	2, 4	27·0	8	45·8	1·3	·279	91
		Nov.	29·320	45·8	34·4	40·1	+0·1	54·0	4	21·0	26	38·8	1·4	·209	89
		Dec.	29·057	41·6	33·0	37·3	+0·4	50·0	19	23·0	30	36·9	1·4	·193	89
DRUMLANRIG, (Dumfries.) David Inglis, Gardener to the Duke of Buccleuch.	191	Oct.	29·423	53·2	42·1	47·7	+0·9	60·0	1	29·0	27	47·0	1·2	·293	92
		Nov.	29·722	47·5	34·0	40·8	−0·2	56·6	2	21·0	19	39·1	1·0	·219	92
		Dec.	29·443	42·9	33·6	38·3	+0·3	49·0	21	22·0	1	37·6	1·2	·202	90
DUMFRIES, (Dumfries.) Rev. William Andson.	60	Oct.	29·562	54·5	42·9	48·7	+1·2	64·0	4	31·0	27	48·6	1·9	·297	87
		Nov.	29·870	47·5	36·3	41·9	+0·0	56·0	4	23·5	19	41·3	1·8	·223	86
		Dec.	29·599	44·1	35·0	39·6	+0·8	51·0	19	25·0	1	40·2	1·6	·216	88
CARGEN, (Kirkcudbright.) Alex. Peacock, Gardener to Colonel Dudgeon.	85	Oct.	29·522	54·5	42·2	48·4	+1·1	62·0	4	31·0	27	47·9	1·4	·299	91
		Nov.	29·851	48·1	35·7	41·9	+0·1	55·0	4	22·0	19	41·6	1·5	·231	89
		Dec.	29·574	44·3	35·3	39·8	+1·0	52·0	19	24·0	1	39·2	1·3	·214	89
CALLY, (Kirkcudbright.) Wm. Thomson, Gardener to Col. F. Murray Baillie.	120	Oct.	...	55·3	41·5	48·4	+1·0	64·6	4	30·0	16, 27	48·5	1·8	·297	87
		Nov.	...	48·9	34·9	41·9	−0·2	55·3	5	20·0	26	41·9	1·4	·237	90
		Dec.	...	43·8	35·6	39·7	+0·4	50·3	8	27·3	1	40·0	1·2	·222	90

CLOUD.	RAIN, AND OTHER FORMS OF PRECIPITATION.					WEATHER. Number of Days with							WIND DIRECTIONS. Number of Observations at 9 a.m. and 9 p.m.									WIND FORCE.
Mean at 9 a.m. and 9 p.m. Scale 0-10.	No. of Days.	Total Fall.	Difference from Average.	Most in a day.		Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Fog.	Gale.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean at 9 a.m. and 9 p.m. Scale 0-12.
				Amount.	Day of Month.																	
		inch.	inch.	inch.																		
...	20	5·76	+3·28	1·30	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	9	1·57	−1·02	0·39	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	26	4·00	+1·12	0·74	20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	27	12·01	...	1·48	15	3	0	0	...	...	20	...	4	5	14	16	17	6	0	0	0	...
...	21	5·48	...	1·23	22	3	1	2	...	...	12	7	0	2	17	12	19	6	4	0	0	...
...	27	5·98	...	0·72	6	14	2	0	...	...	8	1	6	2	6	21	21	6	0	0	0	...
6·9	25	7·90	+5·43	3·13	15	0	0	2	2	13	5	0	3	5	9	6	14	13	8	0	4	2·1
6·1	11	1·06	−1·24	0·31	12	1	1	0	3	6	2	1	3	1	6	3	12	11	20	0	4	2·6
7·3	17	3·77	+1·53	1·18	13	5	0	0	1	16	3	0	1	1	14	7	14	17	5	2	1	2·6
7·3	27	9·28	...	2·95	15	0	0	1	0	16	4	0	0	8	10	1	1	14	7	6	15	1·8
6·3	16	1·30	...	0·35	26	0	0	1	2	11	2	0	2	2	11	3	0	9	15	5	13	1·6
7·6	24	3·48	...	0·86	13	4	2	0	0	14	3	0	1	1	9	7	0	23	11	8	7	1·9
7·0	29	7·22	+4·63	2·35	15	0	0	2	3	18	1	1	6	4	14	4	12	6	10	4	2	2·7
6·7	14	1·17	−1·14	0·23	26	0	0	0	7	15	4	0	4	0	6	2	8	6	32	0	2	2·9
7·5	25	3·88	+1·59	0·97	13	4	2	0	2	19	3	0	4	0	16	2	12	10	18	0	0	2·8
6·4	22	7·12	...	2·19	15	0	0	0	3	12	1	0	6	7	8	7	6	9	13	2	4	1·2
4·9	8	1·62	...	0·48	28	0	1	0	10	6	0	0	0	3	4	3	12	13	23	1	1	1·2
7·4	15	3·16	...	1·15	13	2	1	0	0	15	8	0	4	2	15	1	6	12	16	5	1	1·3
...	21	7·53	+5·05	1·53	15	0	0	2	...	...	1	0	0	13	5	11	14	14	5	0	0	1·6
...	13	1·84	−0·54	0·70	26	0	0	0	...	...	0	2	1	7	5	6	4	15	20	2	0	1·5
...	19	3·75	+1·73	0·78	14	1	4	0	...	...	3	0	0	8	11	1	8	15	19	0	0	1·4
...	21	8·10	...	1·90	15	0	0	1	...	...	0	1	0	0	19	10	0	7	24	1	1	1·3
...	13	1·73	...	0·35	26	0	0	0	...	...	1	0	0	4	3	5	1	10	9	28	0	1·3
...	13	4·05	...	1·77	13	4	0	0	...	...	1	1	1	4	9	11	1	7	8	21	0	1·1
8·2	29	8·23	...	1·40	8	1	0	0	1	17	1	1	0	9	4	4	4	12	2	6	21	0·7
6 4	21	2·55	...	0·40	28	3	0	0	4	13	1	1	2	3	1	3	2	13	6	2	28	0·6
8·1	23	4·95	...	1·23	13	10	0	0	2	20	2	1	0	4	4	2	5	24	4	3	16	0·8
6·6	25	6·43	+2·89	1·48	8	0	0	1	2	14	2	0	13	7	12	7	6	4	12	1	0	1·5
5·1	17	2·37	−0·88	0·55	26	1	1	0	9	10	0	0	5	6	12	3	8	5	21	0	0	1·8
6·8	24	3·62	+0·62	0·75	13	10	0	0	6	13	0	0	3	2	16	6	6	11	18	0	0	1·8
7·2	27	6·03	+2·66	1·01	8	0	0	3	2	17	0	0	0	11	0	5	16	16	5	9	0	0·7
6·4	15	1·88	−1·11	0·42	26	0	0	0	8	14	0	0	2	6	3	8	1	28	8	4	0	0·9
6·8	21	3·30	+0·24	0·70	13	5	0	0	6	17	0	0	0	9	11	3	2	32	3	2	0	0·6
7·6	27	6·26	+3·50	2·03	8	0	0	1	0	6	0	0	0	6	19	2	2	33	0	0	0	2·3
6·4	16	1·87	−0·67	0·38	26	0	0	0	0	4	0	0	0	2	19	1	1	35	0	1	1	2·2
6·8	18	2·41	+0·09	0·61	13	2	0	0	0	9	2	0	0	5	11	5	1	36	2	1	1	1·8
7·3	27	6·45	+2·48	0·78	15	0	0	1	0	12	1	0	2	11	0	5	4	29	5	6	0	1·6
5·9	16	2·66	−1·38	0·45	22	1	0	0	4	6	2	0	3	3	1	7	6	29	7	4	0	1·8
7·0	20	4·37	+0·10	0·73	13	6	0	0	2	8	1	0	3	11	0	2	5	20	19	2	0	2·3
...	26	8·09	+3·44	1·08	13	0	0	0	...	...	0	1	2	7	0	2	3	30	4	14	0	...
...	22	3·79	−0·76	0·80	26	3	0	0	...	...	3	0	1	3	0	7	0	23	1	25	0	...
...	24	5·40	+0·67	0·80	20	2	0	0	...	...	1	1	4	2	0	16	0	21	6	13	0	...
7·3	25	7·53	+3·87	0·88	13	0	0	0	0	15	1	0	6	10	11	10	3	11	5	5	1	2·9
6·5	17	3·05	−0·74	0·76	26	1	1	0	2	5	4	0	10	9	6	14	3	3	4	10	1	2·6
6·3	23	5·05	+0·86	1·01	20	1	0	0	1	8	1	0	3	9	11	13	2	15	5	4	0	3·0
6·5	20	8·59	+4·15	1·04	14	0	0	1	0	6	...	0	5	2	14	12	4	14	9	2	0	2·2
6·4	13	3·81	−0·54	1·18	26	1	0	0	1	6	...	1	14	2	13	4	2	11	9	5	0	2·6
6·7	14	5·53	+0·61	1·22	19	0	0	1	0	2	...	0	7	0	14	4	0	9	25	3	0	2·8
...	23	7·12	+2·32	1·36	15	0	1	1	...	...	0	1	2	17	2	9	1	10	3	18	0	2·5
...	18	4·14	−1·12	0·75	22	2	1	0	...	...	3	1	1	20	2	6	1	7	5	18	0	2·3
...	23	3·85	−1·51	1·02	20	2	2	1	...	...	0	1	1	17	12	7	0	6	7	12	0	2·4

BRIGHT SUNSHINE.

STATIONS.		1907.	SUNSHINE.		
		Months.	Total Observed.	Difference from Average.	Percentage of Possible.
			hours.	hours.	%
BALTASOUND,	(Shetland.)	Oct.	54	...	18
		Nov.	31	...	15
		Dec.	9	...	5
DEERNESS,	(Orkney.)	Oct.	72	− 9	23
		Nov.	41	+ 3	18
		Dec.	28	+ 3	15
INVERNESS,	(Inverness.)	Oct.	84	+14	27
		Nov.	71	+27	30
		Dec.	60	+25	25
FORT AUGUSTUS,	(Inverness.)	Oct.	62	0	20
		Nov.	41	+20	17
		Dec.	12	+ 2	6
ABERDEEN,	(Aberdeen.)	Oct.	87	−12	28
		Nov.	49	− 6	21
		Dec.	25	−12	12
CRATHES,	(Kincardine.)	Oct.	82	...	26
		Nov.	56	...	24
		Dec.	32	...	16
BALRUDDERY,	(Forfar.)	Oct.	65	...	21
		Nov.	75	...	32
		Dec.	27	...	13
PAISLEY,	(Renfrew.)	Oct.	59	−25	19
		Nov.	61	+25	25
		Dec.	21	− 1	10
GLASGOW,	(Lanark.)	Oct.	41	−29	13
		Nov.	33	+ 7	14
		Dec.	3	−12	1
EDINBURGH,	(Edinburgh.)	Oct.	71	−22	22
		Nov.	64	0	26
		Dec.	34	− 2	16
WEST LINTON,	(Peebles.)	Oct.	69	...	22
		Nov.	56	...	23
		Dec.	24	...	11
DUNS CASTLE,	(Berwick.)	Oct.	69	...	22
		Nov.	60	...	25
		Dec.	29	...	14
MARCHMONT,	(Berwick.)	Oct.	65	−21	21
		Nov.	50	− 1	21
		Dec.	28	− 7	13

UNDERGROUND TEMPERATURE.

STATIONS.		1907.	UNDERGROUND TEMPERATURE.				
		Months.	Depth in Inches.				
			3	12	22	36	48
			°	°	°	°	°
DUNROBIN,	**(Sutherland.)**	Oct.	...	50·5	50·8	...	..
		Nov.	...	43·7	44·5	...	..
		Dec.	...	39·2	39·5	...	...
INVERNESS,	**(Inverness.)**	Oct.	...	49·3	...	...	51·3
		Nov.	...	43·4	...	...	47·1
		Dec.	...	38·1	...	...	41·5
ABERDEEN,	**(Aberdeen.)**	Oct.	...	...	...	...	50·2
		Nov.	...	...	...	...	46·9
		Dec.	...	...	...	...	42·4
CRATHES,	**(Kincardine.)**	Oct.	...	49·1	...	...	50·9
		Nov.	...	43·1	...	...	46·1
		Dec.	...	37·9	...	...	40·9
ARBROATH,	**(Forfar.)**	Oct.	47·7	48·8	49·2	...	...
		Nov.	40·7	42·6	44·3	...	...
		Dec.	37·3	37·8	39·2	...	...
POLTALLOCH,	**(Argyll.)**	Oct.	48·8	...	50·5	...	...
		Nov.	41·6	...	43·7	...	...
		Dec.	39·0	...	39·2	...	...
ROTHESAY,	**(Bute.)**	Oct.	...	...	...	...	51·3
		Nov.	...	...	...	...	47·2
		Dec.	...	...	...	...	43·3
PAISLEY,	**(Renfrew.)**	Oct.	47·6	48·6	50·9	...	...
		Nov.	42·5	43·3	46·4	...	...
		Dec.	39·3	39·6	42·0	...	...
CORSTORPHINE,	**(Edinburgh.)**	Oct.	47·8	50·0	50·6	51·3	51·8
		Nov.	41·4	44·0	45·0	46·1	48·0
		Dec.	37·6	38·8	39·5	40·4	42·9
SMEATON,	**(Haddington.)**	Oct.	47·4	49·0	50·0	...	...
		Nov.	40·7	42·4	44·6	...	...
		Dec.	34·9	35·9	38·8	...	...
MARCHMONT,	**(Berwick.)**	Oct.	47·2	48·5	50·0	...	...
		Nov.	40·4	42·1	43·9	...	...
		Dec.	36·0	37·2	38·6	...	...

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The mean rainfall was 3·15 inches, or 17 per cent. below the normal. In Eastern districts there was a decided shortage, and Midlothian had only half its average rainfall. In the West a less well-marked deficiency prevailed, and a few stations reported a slight excess. Most districts had a very heavy fall on at least one day of the month, but the Edinburgh area was in this respect exceptional, Leith not having as much as a quarter of an inch on any one day. Perhaps the heaviest general fall occurred on 26th, on which day some places, such as Dundee and Perth, registered more than half their totals for the entire month. Between 10th and 12th, on 16th and on 22nd, very heavy falls occurred in various districts. Lochbuie (Mull) had amounts of 1 inch or over on as many as 5 days; Glenquoich on 4 days; Bendamph, Fort William, and Stronvar on 2 days. The heaviest falls reported were 2¼ inches at Glenquoich on 13th; 1·80 inches at Bendamph (Loch Torridon) on 21st; and 1·78 inches at Baltasound (Shetland) on 22nd. In Eastern districts the well-defined shortage was in striking contrast to the heavy rains of October.

Though fine spells occurred, the general conditions of the month may be described as of a very changeable character. On the afternoon of the 12th a rapidly travelling storm-centre affected Western districts especially. On 21st and 22nd a S.W. gale was experienced in all districts, and on 26th a gale from S.E. was of considerable severity.

Wintry conditions prevailed around 18th and 26th, with snow and sleet in many districts.

Thunderstorms occurred in Shetland on 8th; on 12th at Lairg, and over a large part of Western Scotland; at Leadhills on 13th and 14th.

Auroras noted at Baltasound on 3rd, 5th, 6th, 7th, 11th, 13th, and 29th; at Fort Augustus on 5th and 10th.

Sunshine records in general differed little from the normal, but there was a considerable excess towards N.W.

But little coast fog was experienced except in the Firth of Forth. On 26th, however, rather dense land fog prevailed, and the Upper Clyde was affected.

DECEMBER 1907—

Hence the month of DECEMBER 1907 was characterised by a low mean pressure; a slightly high mean temperature, with a rather low mean daily range; a rather high mean rainfall; and a large excess of South Easterly winds.

The mean pressure was 29·628 inches, or 0·152 inch below the normal. Considerable fluctuations occurred during the first two weeks, but from very low readings on 13th there was a rapid recovery, with high readings during the rest of the month except from 20th to 22nd. At Leith the sea-level extremes were 30·339 inches on 24th and 28·631 inches on 13th.

The mean temperature was 38°·5, or 0°·4 above the normal. Many stations had practically their average temperatures, whilst some showed a deficiency. As regards the whole country, the nights were 0°·9 above the average, and the days practically normal. In several districts the 1st was the coldest day, and, speaking very generally, it may be said that the first week of the month was cold, the second mild, and the third very mild, though at a few stations in the West lowest temperatures were reported on the night of 14th. Highest temperatures as a rule occurred on 17th. During the last week or ten days conditions were controlled by winds from some Easterly point, and cold weather was experienced. The shade temperatures ranged from 54°·2 at Fort William on 17th to 10° at Balmoral on 30th.

The mean rainfall was 4·67 inches, or 13 per cent. above the normal. In most districts to the East and South of the Grampians there was a well-defined excess, amounting to 70 per cent. at Edinburgh, and most pronounced along a belt stretching from the Forth to the Clyde. Towards North and North West there was as a rule a shortage, though some stations had a slight excess. In several Western and Southern districts rain fell on every day from 1st to 22nd, whilst towards North and East there were occasional fine days. Between 4th and 11th we note falls exceeding 1 inch in 24 hours at Glencarron on 4th and 10th; at Glenquoich on 5th, 10th and 11th; at Fort William on 9th and 10th; at Lochbuie on 4th, 7th and 9th; at Rothesay on 10th; the greatest of these falls being 2·10 inches at Glenquoich on 11th. On 13th a severe rainstorm was general in Eastern districts, 1·40 inches being registered at Logie Coldstone, and about 1·20 inches at Edinburgh and West Linton. On 20th heavy falls were again widespread, with 1 inch at Paisley, Cally and Dumfries. The last 8 days were rainless or all but so in many districts.

The heavy rains of the 13th were the accompaniment of a gale from W. and N.W., whilst on 26th a severe gale from S.E. occurred. During the last week of the month weather of a wintry type prevailed, with snow on several days, but in most districts to no great depth.

Thunderstorms reported at Kyleakin and Corran on 4th; Cargen on 6th; Cally on 7th; and Colmonell on 9th. Lightning in several districts on 4th, 5th or 6th.

At the stations with sunshine recorders the amounts did not differ greatly from the normal except at Inverness, which had twice the average.

Land fog, occasionally very dense, was frequent towards the end of the month.

Auroras observed in Shetland on 7th, 13th, 28th; at Inverness on 10th; at Deerness and Balmoral on 11th.

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